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## Digital Gift Guide

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January 2003

Cover Story: Secure Computing

Lab Test: Storage and Backup

ad breaking deadline ————— Friday, Dec. 19, 2002  
Web edition begins ————— Wednesday, Dec. 4, 2002

February 2003

Cover Story: 15th Anniversary

Lab Test: Digital Cameras, Accessories

ad breaking deadline ————— Monday, Dec. 15, 2002  
Web edition begins ————— Wednesday, Dec. 17, 2002

March 2003

Cover Story: The New Digital Home

Lab Test: Colour printers

ad breaking deadline ————— Wednesday, Jan. 22, 2003  
Web edition begins ————— Wednesday, Feb. 12, 2003

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V1300	V1300	V1300	V1300	V1300	V1300	V1300	V1300	V1300	V1300
1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024
1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024

### 17" LCDs (1280 x 1024 native resolution)

Model	Panel	Panel	Panel	Panel	Panel	Panel	Panel	Panel	Panel
V1700	V1700	V1700	V1700	V1700	V1700	V1700	V1700	V1700	V1700
1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024
1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024

### 19" LCDs (1280 x 1024 native resolution)

Model	Panel	Panel	Panel	Panel	Panel	Panel	Panel	Panel	Panel
V1900	V1900	V1900	V1900	V1900	V1900	V1900	V1900	V1900	V1900
1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024
1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024

### Large Format LCDs (1280 x 1024 native resolution)

Model	Panel	Panel	Panel	Panel	Panel	Panel	Panel	Panel	Panel
V2300	V2300	V2300	V2300	V2300	V2300	V2300	V2300	V2300	V2300
1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024
1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024

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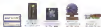
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### Compatibility problems right on

Having picked up a copy of the September issue of *The Computer Paper* in passing at the end of my August holiday in Toronto, and



read it with interest on the plane home to Manchester, I resolved to congratulate you on one particular article: "Is true compatibility achievable?" Written with style and panache by Dr. Marvin Silbert, the article related to the kind of everyday problem which has even simple users such as myself and my wife tearing our hair out with frustration. She was in agony when finding that work she has saved on floppy for a worksheet to be printed out at school cannot even be opened when she gets there, having spent hours in preparation; vice-versa if she wants to continue at home, work done on a PC in the workplace.

As for myself, I have put in mega-hours recording my family tree on a database at

home. This has become now so precious I have lost track of my backups of backups! I am now terrified that future developments may render all my labours unusable.

Please pass on my sympathies to Dr. Silbert, who obviously relies even more than we do on software developers to maintain the usability of their products. Tony Burton

### More on the computer glasses problem

Re Marvin Silbert's article dealing with the problems faced by those wearing bifocal lenses when viewing computer monitors (See "I can see! I can see!" in the Nov issue). I have achieved similar results by using auxiliary add-on lenses.

My first pair is similar to flip-up sun glasses and attach into my regular glasses with hinged squeeze-open clips.

They are constructed of a fairly thick acrylic-type material, are sturdy and well made and cost approximately \$10. They cover the top (distorter) portion of my lenses and most of the centre lens. The name on the velcro-fastened case is Accessibility.

The other pair is branded Rouglen. It is a wafer thin unit, which drops in behind my regular lenses and is gravity-sequestered by an inverted L-shaped bracket on the nose bridge.

This unit provides magnification for all three portions of my trifocals. The cost was \$20. Both of the above augments came in a choice of various diopter strengths.

Bob Nassens

### Ellyah summer reader impatient

How could you leave your readers hanging by not including Part II of Jeff Egan's interesting article on his experiences with ellyah that appeared in the October issue? The installment ended at a crucial moment in Mr. Egan's experience, with the promise that "Next Month: It gets worse, and then better".

I waited impatiently for the November issue, got it and was so disappointed the conclusion was not there. When will it be published?

Lillian M. Mandus

Too late to be included in the November issue, but is running in the December issue (and will also be available at TCP's online archive on [CompuComp.com](http://CompuComp.com)).

### More on the Canadian French keyboard

Special thanks for promoting Canadian French Keyboard in your November issue. This will help French Canadians outside Quebec, where this type of keyboard is very hard to find.

Dean Desmarais

### Correction



Last month we reviewed the Samsung 151P, which was designed by E.A. Parache, but illustrated it with a photo of the 151MP. The latter is a nice-looking monitor but the Parache-designed unit is definitely

better. Our apologies for the confusion. □

TCP replies: We apologize, Part II came in

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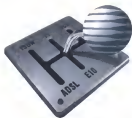
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# Making the digital gift list

By Jeff Evans and David Tanaka

**A**t The Computer Paper, the annual Holiday Gift Guide has been a tradition for many years. It's the opportunity for our writers to sum up the past 12 months of new product releases, reviews, and hands-on testing, by picking the best of the year's digital offerings to recommend as gift suggestions for our readers. This year has seen a lot of development in digital products and services.

## Online and connected

Many Canadians now have high-speed Internet service. The adoption rate of high-speed Internet in this country is one of the highest in the world and those of us who have bought into it understand the usually effortless enjoyment of streaming media, fast downloading of software applications, Internet voice and video phone calls, high-resolution photo sharing, and many other formerly "power-user" applications.

Recently, some Canadian cable providers have started offering special high-speed service sign-up discounts, or bargain priced bundles of cable TV plus high-speed Internet service to tempt more of us to sign on to broadband Internet access. The phone companies are also trying to make high-speed service more attractive. We were recently visiting friends in a small community in Southern Ontario, who showed us a flyer from Bell Canada offering a "DSL lite" service—once the speed of dial-up service for just a few dollars a month more, and with the benefit of almost DSL of being able to use the phone and be on the Internet at the same time.

If you have high-speed Internet access and more than one computer, you are probably interested in connecting them together. For the past couple of years, TCP has been reporting on IEEE 1394 and more recently 802.11a wireless networking. Wireless networking is attractive to many households because it doesn't

Continued on page 22



## An iPod for unMacs—and we celebrate

By Sean Carruthers

**W**hen Apple released the 5 GB iPod for the Mac, you could hear oaks and aahs all over the industry, even from Windows users. The iPod was not only the smallest hard drive-based MP3 audio player, it was the best looking and most elegant in terms of operation.



Apple's iPod. Photo: Apple Inc.  
From Apple Canada, [www.apple.ca](http://www.apple.ca)  
Estimated price: \$249 (16 GB), \$199 (8 GB)

Apple apparently got the message that non-Mac users wanted to get their mitts on an iPod, because it introduced models that were compatible with Windows PCs when it revised the product lineup in July. The new models are available in 10 GB and 20 GB capacities.

From the outside, the new iPod looks almost identical to previous editions except for the new remote control unit that plugs in through the headphone jack, a solid state touch pad that replaces the scroll wheel. By eliminating the mechanical component of a physical dial, probability of failure through repeated use is reduced, though it also means scrolling is now a bit touchier (especially if your fingers have issues with touch pads, as mine did).

As before, the iPod also stores your calendar and contact list, so you don't need a PDA to look up addresses, phone numbers, and appointments. The new iPod also features a Breakout-like game for those

moments when you just need to kill some time—you can even play the game while you're listening to your MP3 files. Included with the player is a listening case with built-in dock.

The iPod transfers data via a FireWire connection. The FireWire port also powers the unit and recharges its internal battery. Though it functions as a mobile plug-and-play hard drive, allowing you to drag and drop your files from your Windows desktop, you need to use the Musicmatch

Software (free) to get your audio files into the right place on the iPod; it's a small fly in the ointment, because it's a bit more difficult to use than the iTunes software that comes with the Mac version—on the other hand, it's more intuitive than previous versions of the Musicmatch software, so it's not too big a problem. The bottom line is that the new iPod for Windows brings the smallest, and one of the most, MP3 players to the Windows universe... finally!

## VP Award: Apple iPod

Apple was already onto a winner when it introduced the first iPod, a hard drive-based player that was half the size of any other MP3 player in the competition, combined with the easiest user interface to use. Now, with the introduction of the new models, it has a second reason to already excellent product even better, eliminating one pain point in the MP3 player by changing the scroll wheel to a solid state touch pad. The new iPod is more portable, increasing the capacity, and best of all, by being more portable, it's more compatible with the zillion plug-in devices that are out there. It's also more elegant, and certainly better looking—in other words, why, yes, this product is a VP.



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# Holiday sounds: digital audio gifts

By Sean Connolly

**Featured product: Jukebox 3**  
 From Creative, [www.creative.com](http://www.creative.com)  
 Estimated price: \$99 (Jukebox only)



Creative's Normalizer has included great MP3 players, and the Jukebox 3 is no exception. It has a 20 GB hard drive, but is physically smaller than previous Jukebox versions. It connects to your PC via a speedy FireWire connection and a much easier user interface. While previous versions had an infrared sensor, the Jukebox 3 is the first to really follow through with the patented IR port.

What makes the Jukebox 3 even nicer, though, is the range of accessories available for it. The new House Kit (US\$60) adds several features: battery recharging, syncing with your PC via USB or FireWire, and allowing your Jukebox to use your existing PC speakers. It also comes with an infrared remote control, allowing you to access the Jukebox 3 from across the room. Though you've always been able to hook Jukeboxes up to a stereo through audio-out jacks, these extra features make the Jukebox 3 a nicer

addition to your home audio setup.

The Car Kit (US\$40) has two very simple components: a power cable that plugs into a car cigarette lighter, so you don't have to worry about running down the battery, and a cassette dock adapter that plugs into the audio out jack on your Jukebox (it can be used with any audio device with an 18-inch audio jack). The power adapter can be purchased separately for US\$30 if you don't need the cassette component.

With the Jukebox 3 Rechargeable Battery (US\$30) you can finally take advantage of the Jukebox 3's second battery slot. It boosts the device's total run time to 22 hours. A great option if you're planning to be away from your power cord for extended periods.

A 40 GB version of the Jukebox 3 is available only on the Normal World Web site, for US\$300. If you're a serious music junkie, the extra cost will be well worth it!

## Normal World

From Creative, [www.normalworld.com](http://www.normalworld.com)  
 Estimated price: US\$299 (40 MB), US\$320 (128 MB)



Two of the hottest product categories today are MP3 players and USB storage "keys," and true to its name, Creative has combined the two. The Mo/Wo is an MP3

player that doubles as USB key; simply plug the Mo/Wo directly into the USB port and you can transfer your MP3 files or other data. When you're ready to listen in music, you plug the Mo/Wo into the external battery unit and away you go.

Because the unit is so compact, it doesn't have an LCD window to display your track time, but with the limited capacity (64 MB or 128 MB) you'll have a good idea of what's on your player anyhow. Because you don't have to navigate on-screen menus, the button selection is fairly simple: track forward, track back, stop, and volume up and down.

## RCA Lynx Personal Jukebox

From Thomson Multimedia Inc., [www.usa.rca.com](http://www.usa.rca.com)  
 Estimated price: \$99



Hard drive-based MP3 players are the big new thing, so it makes sense that RCA would join the party. This RCA MP3 player has a few drawbacks. Like a USB 1.1 connection to the PC (slower than the FireWire connection found on the Creative and Apple players) but once you've loaded your files onto your player, the transfer rate is less of a factor.

The Lynx comes with MusicMatch software for uploading your files, though it should be noted that it uploads them in a secured format, which will prevent you from playing them in another computer, if you try to download the files

themselves (the player also functions as a portable hard drive, after all). That aside, it's a reasonably good package for the price: it has everything you need to make your music collection mobile, and it also comes with a car adapter kit (cigarette lighter power and cassette player adapters) so you can use it while you're out the road without running down the internal rechargeable battery.

## Apple iPod

From Apple Computer, [www.apple.com](http://www.apple.com)  
 Estimated price: US\$120 (download), US\$40 (box)



Mediafire first got noticed when it introduced MaciWoe, a product that made it possible to use Mac-formatted hard drives on a Windows computer. It has used that same technology in XPlay, which allows you to use a Mac-compatible iPod with a Windows PC. When you install XPlay, you can simply drag-and-drop audio files onto your iPod folder, and the software will make sure it goes to the proper place on your player, even if you drag whole folders over to the iPod.

Though Apple has now introduced a Windows-compatible version of the

*Continued on page 24*

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## Ring in the new year: cell phones and accessories

**Motorola V70** [www.motorola.ca](http://www.motorola.ca)  
From Motorola Canada Ltd. [www.motorola.ca](http://www.motorola.ca)  
Estimated price starts at \$208

the phone will set you back \$240, though you can bring that down to \$490 with the right subscription plan. After all, you have to pay for fishnet!

Because it uses a similar interface, it can use some of the accessories available for V-series phones like the V60, V65, and V75L, as well as Motorola's 270 and 290. One such accessory is the Retractable Hands-Free Car Kit (\$160). The kit features a speaker component that fits snugly into a cup holder, the base of which has retractable cables that connect to your car's lighter and the phone. There's also a microphone with a longer wire, so you can place the microphone closer to you (behind the steering wheel perhaps) as well as a dashboard mount for your phone.

There's also a Desktop Charger for the home or office (\$70). Simply plug the phone's power adapter into the back of this accessory, then drop your phone into the slot on the top to recharge. An upright support can be moved to accommodate your particular Motorola phone depending on how thick it is. The charger also has a slot on the rear of the unit that will automatically charge a second battery. Just in case you're worried about how it will look on your desktop, Motorola has thoughtfully included a small, analogue clock on the front of the base.

—Sean Conacher



As cellular phones become a bigger part of our lives, Motorola feels design will play a larger role in the purchasing decision. Why buy a lump of molded plastic in the shape of a phone when you can get a "lifestyle" accessory that does the same thing?

While Motorola phones haven't been lacking in design in the past, the V70 is a robust rethink. Instead of a one-piece or a clamshell flip design, the V70 has a rotating keypad that covers and protects the keypad when the phone isn't in use. Because it rotates around the display, there's no need to add a secondary LCD window in the phone. The lack of a keypad also keeps it very compact.

The single-line (1,960 MHz) phone works on GSM networks and is currently available from Rogers AllNet Wireless. Now the downside: straight-out purchase of

When Bell Canada rolled out its Better iX digital network, Telus also benefited, as one of the companies that uses that network. While there aren't many cell phones out there with iX capability, you can take advantage of the network right now if you have a mobile computer with a PC Card slot, thanks to the Velocity Wireless bundle.



The package comes with a Serco Wireless card that allows you to connect wirelessly at speeds roughly five times faster than earlier digital GPRS networks, as well as make voice calls. At present, iX network coverage is limited to major urban centres in most areas of the country (Vancouver, Toronto, Winnipeg, Montreal, Quebec City, and Halifax). Albertans are particularly lucky though, as vast sections of that province are already on the iX network. The iX service is scheduled to expand even further by the end of the year (maybe even by the time you read this) and undoubtedly even more in 2003.

As with all new wireless technology, it

can get a bit expensive; the rate plans start at \$30 per month for 5 MB transfer up to \$300 per month for at least 300 MB transfer (theoretically unlimited at the network's discretion but not oversteering), plus network usage and licensing fees. For business users who need to stay connected no matter where they are, though, it's a great solution.

—Sean Conacher

**Eric Communicator 580**  
From iMaging, [www.imaging.com](http://www.imaging.com)  
Available with antenna package from Rogers AllNet Wireless, [www.rwg.com](http://www.rwg.com)  
Price Varies (depends on monthly antenna fee)



It's a cruel fact that the same people who are busy enough to make heavy use of their cell phones are also likely to have a PDA they consider indispensable. They quickly discover, however, that carrying two individually compact devices is in fact awkward and frustrating. Now that Palm

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OS-based PDA/cell phone combos are trickling into Canada (other models by Handspring and Kyocera with colour screens, for instance, have yet to appear up here), the prices of some of these baby folk are being answered.

The dual-band, single-mode GSM/GPRS Ito Communicator is wonderfully compact with a screen about the size of one of the smaller Palm devices minus the Graffiti handwriting area. (The space-saving aesthetic comes over into Ito's clutter: it doesn't have one. Charging and synchronizing is accomplished through a simple USB connection.) The BlackBerry-like thumb keyboard is easy to use, but having to switch between it and the stylus is a little troublesome—that is, unless you dial straight from the address applications, in which case you don't need to use the keyboard.

#### Smartphone: GCP-6835

From: Kyocera [www.kyocera-ventures.com](http://www.kyocera-ventures.com)  
Available from: Bell Canada, wireless.ca, and  
Telus Mobility [www.telusmobility.com](http://www.telusmobility.com)  
Price: Varies (Depends on monthly service fees)

In contrast, the larger, tri-band digital PCS Kyocera Smartphone lets you use it as a phone without activating the Palm OS (leaving the protective cover [which looks like a flip-out mouthpiece] on lets you use the buttons on the exterior and speak normally. Even though you can access all of your phone numbers without launching the Palm OS tedious. Open the cover, and you have a full-size Palm handheld, complete with Graffiti area. Unlike the Treo, you can't dial directly from the address app, but you can quite easily set up a speed-dial list.

Otherwise, both handhelds have similar features. Both include wireless Web-browsing software, a vibrating alert, and a hands-free option (though the Treo reduces the earpiece and mic). The 35 MB Treo has SMS capability, while the 8 MB Smartphone has a wireless fax.

One tip: both phones include full-screen displays that practically beg for fingerprint swatches on their screens. There is a few clear protective screen covers and whoever receives one of these as a gift—even if it's you—will thank you later.

—Erika Dowdend

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< DIGITAL GIFT GUIDE >

holds sturdy notes and a couple of packets to hold credit cards, etc. While designed for the Palm 500 and Visor Edge lines, we found that it would accommodate Toshiba's e310 PocketPC unit (about the same size as the Edge).

The PDA Slip Case is intended to be a universal case for a variety of devices. We found it was an ideal match for our Jornada 540 unit. It's a top-loader design, with elasticized sides. An elastic loop over the top secures to a little hook on the back, preventing the device from slipping out. The case also has a belt loop on the back.

—David Sparks

**Handheld right cases**

Cost: \$15 (Visor); \$20 (Palm 500)  
Price: From \$10 to \$15



For the ultimate protection for your hand-held, encase your PDA in a handheld aluminum or titanium case. We were introduced to the RuggedLine line of products at a trade show last year. These are rigid anodized aluminum and titanium cases that are lined with foam to keep your handheld out of harm's way.

While hardly form-fitting—they add significant dimension to the handheld—these cases are designed to match the contours of various devices, so for example, the lower part of the case for the Palm 500 series is rounded to match that device's rounded bottom edge. We stood on the titanium sample the company sent us, and it held up just fine.

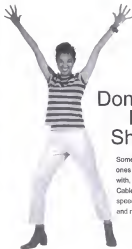
The company also makes a line of leather PDA cases.

**Other kids**

While not new this season, we also still like the Sideshow folding keyboard for Palm and PocketPC devices (sold under the Palm and Targus brand names). It's still on the market for various Palm and PocketPC devices, selling for about \$120 to \$150.

We've noticed that some retailers now have special merchandising displays just for handheld computers, which typically

*Continued on page 33*



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### Making the digital gift that

Continued from page 32

card reader slot leads into the printer.

If you don't want to print your own digital images, photo retailers like Blacks, Japco Camera, and London Drugs offer digital printing services, either online or at in-store kiosks.

### Mobile computing

Notebook computers are popular with Canadian consumers: a 10 percent plus annual growth in consumer notebook PC sales has made them the bright part of an otherwise sluggish home PC market. The new Tablet PC, which enables writing, menu selection, and drawing directly on a laptop LCD screen, will be on the market by the time you read this, while the household PDA and Palm OS computing platforms have attracted hundreds of thousands more Canadian users in the last two years. The Lab Report in this issue looks at a spectrum of colour handhelds currently available.

### Software

One of the enduring benefits of the general purpose personal computer is that

Two kinds of a wide range of tanks with a jet by adding some software. The sky's the limit, from occasional titles for children to geospatial students to scientific astronomy software. In terms of sale computing, the continued proliferation of ever-smaller viruses and other malicious code has made anti-virus and firewall software ever more important to Internet-connected home PC users as well as corporations. The Canadian market leaders in consumer security software, Symantec and McAfee/Network Associates, have both recently released new lines of security software for home and small office users in time for 2003.

## Dental is not just composites.

Some of the best suggestions for digital gifts may involve computers only slightly; if at all. MP3 players are an example. The computer might be needed to rip and load tunes onto the device, but not to enjoy it. Likewise, digital cell phones complement, but don't rely on, the PC.

On the following pages are some products our writers and editors would love to find under the tree. ☺

## Hickman, J. C. 1993. Field studies with

Continued from page 20

iPod, that drag-and-drop capability is still a good reason to get XPlay: it's certainly much more straightforward way of loading files than using Musicmatch.

You can order the bound version from the Medisearch Web site for US\$440, which includes shipping, or download it right now and save US\$18.

## XP Sourced XP 200

From: [JL@red.com](mailto:JL@red.com)

Estimated value: \$175



If you're a long-time music fan, there's a good chance you have a lot of vinyl records sitting around collecting dust. The XP5000d XP-201 makes it easy to hook your turntable up to your PC and

transfer your old records over to a digital format for burning onto CDs or listening to on an MP3 player.

The product is an external box that sits between your turntable and your PC's audio inputs; the front of this unit has both a gain knob for level adjustment and a ground switch so you can easily switch between input sources requiring grounding (like your turntable) and those that don't (like a cassette deck).

The XP-201 ships with an AC adapter, but you can also use a standard 9V battery.

The front of the unit also features a headphone jack so you can monitor the sound without having to hook your headphones to the rear of your computer.

Once you've recorded your vinyl records onto your PC, you can use the included copy of Daemned Cat 32 to clean up the sound. This powerful software makes it relatively easy for you to remove pops and clicks, as well as other artifacts like tape hiss. Thanks to Keychron ([www.keychron.com](http://www.keychron.com)) for loaning us the software. CR

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## Keychain drives: the perfect stocking stuffer

By Eamonn Townsend

Even though there have been many ways to store and transfer digital data over the years—from paper tape to reversible DVDs—two common problems have long plagued us. First was the need for specialized hardware or software (not everyone has a Zip drive or DirectCB) and two-way compatibility (while a PC-formatted floppy disk can be read on a Mac, the same can't be said of Mac-formatted disks on PCs).

This is why I like USB keychain drives—though referred to as drives, they use flash memory. They start anywhere from 16 MB to 7 GB of data, are small enough that you can hold several in your hand, and are incredibly easy to use: pop one into the USB port of a Windows (98, Me, 2000, or XP), Mac (95, 96, or higher), or Linux (kernel 2.4 or higher) machine, and it will automatically be recognized as an external disk. These devices are com-

pletely drive-free (unless you're running Windows 95), and files can be moved back and forth between them, transparently.

Several manufacturers have come up with their own spin on keychain drives. Here are a few worth looking at.

### Creator

From: SanDisk, www.sandisk.com  
Street price: \$99 (16 MB) to \$229 (512 MB)



The SanDisk Creator (available in 16 to 256 MB capacities) is the only model we reviewed that can't actually be used as a

## Problem Solved Inc.

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keychain, which kind of makes sense. At first, the volume of most other such drives, it's a little too bulky to carry in your pocket. The darkness is due to the fact that it's also the only one that is expandable: it stores information on removable SD or MMC flash memory cards. This makes it one of the few upgradeable keychain drives out there.

A three-position switch pops out the USB connector, ejects the flash memory card, or keeps both recessed in the drive body. Windows users can take advantage of the GuardLock security software, which encrypts selected files. They can only be decrypted by entering your password in the software, so you'll need to leave a little space on the Cauer for the 60KB executable file.

**USB Drive: Professional**

From: \$94; [www.prodata.com](http://www.prodata.com)  
Estimated price range: \$100 to \$130



3M's USB Drive Professional (64 MB to 1 GB, with a 2 GB model planned for next year) is a scaled-up version of its USB Drive—or rather, its software (included on the drive itself), taking up a little over 3 MB. USB Lock turns the USB Drive Professional into a key: once you plug it, your computer can only be used when the drive is plugged into one of its USB ports.

USB Security automatically connects and encrypts files dropped into the Secret and Top folders, respectively. (One flaw: the suggested password removers are all things careful users know not to use as passwords: birthdays, parents' names, etc.) USB-Backup provides a simple, one-button backup to or from the USB Drive. USB-Mail is a bare-bones POP/SMTP email client that stores your messages in the drive itself. Despite the "professional" moniker, none of the included software is particularly polished—but they all work as advertised. It is, for this, this seems to be the rule for all of these drives.

Continued on page 30

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### Keychain drives

Continued from page 28

#### ThumbDrive Touch

Price: Feb. 2000, www.thumbdrive.com

Estimated price range: \$89 to \$209



The 2000's ThumbDrive Touch uses biometrics for security—you use a fingerprint to access protected files. Setup takes just a few minutes. The master user uses the included program to partition the ThumbDrive into protected and unprotected areas; thereafter, only the master user and three other registered users can access the protected partition. (The ThumbDrive only uses one drive letter. If you're logged in, the protected partition is active; otherwise, the unprotected partition is active.)

If you're nervous about the sensor misreading your fingerprint 10 minutes before a deadline, you can use a password in your fallback. However, you can only subtract the partition, change the master user, or change the master user's password if you have that all-important fingerprint.

The ThumbDrive Touch is also the only one of the drives here that has a write-protect switch. Capacities range from 16 to 128 MB.

### Windows only security

We warned that there is one downside to USB keychain drives: In all the models listed here, the included software only works on Windows machines—a glaring omission since security is essential on anything that can be misplaced as easily as, well, car keys. □

### A present for your PDA

Continued from page 18

include cases, transparent display overlays to protect the screen surface, extra stylus points, memory modules, and more. If you are thinking of buying for someone else, be sure to know the exact model number of the device. The trend has been that new models—even from the same manufacturer—often use different USB or sync connection, which means third-party accessories need to auth or they won't work. □





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## Computer Rack

4089 1400	3:00	ACTUE WFOO	3:00	37 NEWER (CROSS) STARTING @	3:00	PA 1 1794	3:00	4090 1400	3:00	ACTUE WFOO	3:00	38 NEWER (CROSS) STARTING @	3:00	PA 1 1807	3:00	4091 1400	3:00	ACTUE WFOO	3:00	39 NEWER (CROSS) STARTING @	3:00	PA 1 1814	3:00	4092 1400	3:00	ACTUE WFOO	3:00	40 NEWER (CROSS) STARTING @	3:00	PA 1 1821	3:00	4093 1400	3:00	ACTUE WFOO	3:00	41 NEWER (CROSS) STARTING @	3:00	PA 1 1828	3:00	4094 1400	3:00	ACTUE WFOO	3:00	42 NEWER (CROSS) STARTING @	3:00	PA 1 1835	3:00	4095 1400	3:00	ACTUE WFOO	3:00	43 NEWER (CROSS) STARTING @	3:00	PA 1 1842	3:00	4096 1400	3:00	ACTUE WFOO	3:00	44 NEWER (CROSS) STARTING @	3:00	PA 1 1849	3:00	4097 1400	3:00	ACTUE WFOO	3:00	45 NEWER (CROSS) STARTING @	3:00	PA 1 1856	3:00	4098 1400	3:00	ACTUE WFOO	3:00	46 NEWER (CROSS) STARTING @	3:00	PA 1 1903	3:00	4099 1400	3:00	ACTUE WFOO	3:00	47 NEWER (CROSS) STARTING @	3:00	PA 1 1910	3:00	4100 1400	3:00	ACTUE WFOO	3:00	48 NEWER (CROSS) STARTING @	3:00	PA 1 1917	3:00	4101 1400	3:00	ACTUE WFOO	3:00	49 NEWER (CROSS) STARTING @	3:00	PA 1 1924	3:00	4102 1400	3:00	ACTUE WFOO	3:00	50 NEWER (CROSS) STARTING @	3:00	PA 1 1931	3:00	4103 1400	3:00	ACTUE WFOO	3:00	51 NEWER (CROSS) STARTING @	3:00	PA 1 1938	3:00	4104 1400	3:00	ACTUE WFOO	3:00	52 NEWER (CROSS) STARTING @	3:00	PA 1 1945	3:00	4105 1400	3:00	ACTUE WFOO	3:00	53 NEWER (CROSS) STARTING @	3:00	PA 1 1952	3:00	4106 1400	3:00	ACTUE WFOO	3:00	54 NEWER (CROSS) STARTING @	3:00	PA 1 1959	3:00	4107 1400	3:00	ACTUE WFOO	3:00	55 NEWER (CROSS) STARTING @	3:00	PA 2 0006	3:00	4108 1400	3:00	ACTUE WFOO	3:00	56 NEWER (CROSS) STARTING @	3:00	PA 2 0013	3:00	4109 1400	3:00	ACTUE WFOO	3:00	57 NEWER (CROSS) STARTING @	3:00	PA 2 0020	3:00	4110 1400	3:00	ACTUE WFOO	3:00	58 NEWER (CROSS) STARTING @	3:00	PA 2 0027	3:00	4111 1400	3:00	ACTUE WFOO	3:00	59 NEWER (CROSS) STARTING @	3:00	PA 2 0034	3:00	4112 1400	3:00	ACTUE WFOO	3:00	60 NEWER (CROSS) STARTING @	3:00	PA 2 0041	3:00	4113 1400	3:00	ACTUE WFOO	3:00	61 NEWER (CROSS) STARTING @	3:00	PA 2 0048	3:00	4114 1400	3:00	ACTUE WFOO	3:00	62 NEWER (CROSS) STARTING @	3:00	PA 2 0055	3:00	4115 1400	3:00	ACTUE WFOO	3:00	63 NEWER (CROSS) STARTING @	3:00	PA 2 0102	3:00	4116 1400	3:00	ACTUE WFOO	3:00	64 NEWER (CROSS) STARTING @	3:00	PA 2 0109	3:00	4117 1400	3:00	ACTUE WFOO	3:00	65 NEWER (CROSS) STARTING @	3:00	PA 2 0116	3:00	4118 1400	3:00	ACTUE WFOO	3:00	66 NEWER (CROSS) STARTING @	3:00	PA 2 0123	3:00	4119 1400	3:00	ACTUE WFOO	3:00	67 NEWER (CROSS) STARTING @	3:00	PA 2 0130	3:00	4120 1400	3:00	ACTUE WFOO	3:00	68 NEWER (CROSS) STARTING @	3:00	PA 2 0137	3:00	4121 1400	3:00	ACTUE WFOO	3:00	69 NEWER (CROSS) STARTING @	3:00	PA 2 0144	3:00	4122 1400	3:00	ACTUE WFOO	3:00	70 NEWER (CROSS) STARTING @	3:00	PA 2 0151	3:00	4123 1400	3:00	ACTUE WFOO	3:00	71 NEWER (CROSS) STARTING @	3:00	PA 2 0158	3:00	4124 1400	3:00	ACTUE WFOO	3:00	72 NEWER (CROSS) STARTING @	3:00	PA 2 0205	3:00	4125 1400	3:00	ACTUE WFOO	3:00	73 NEWER (CROSS) STARTING @	3:00	PA 2 0212	3:00	4126 1400	3:00	ACTUE WFOO	3:00	74 NEWER (CROSS) STARTING @	3:00	PA 2 0219	3:00	4127 1400	3:00	ACTUE WFOO	3:00	75 NEWER (CROSS) STARTING @	3:00	PA 2 0226	3:00	4128 1400	3:00	ACTUE WFOO	3:00	76 NEWER (CROSS) STARTING @	3:00	PA 2 0233	3:00	4129 1400	3:00	ACTUE WFOO	3:00	77 NEWER (CROSS) STARTING @	3:00	PA 2 0240	3:00	4130 1400	3:00	ACTUE WFOO	3:00	78 NEWER (CROSS) STARTING @	3:00	PA 2 0247	3:00	4131 1400	3:00	ACTUE WFOO	3:00	79 NEWER (CROSS) STARTING @	3:00	PA 2 0254	3:00	4132 1400	3:00	ACTUE WFOO	3:00	80 NEWER (CROSS) STARTING @	3:00	PA 2 0301	3:00	4133 1400	3:00	ACTUE WFOO	3:00	81 NEWER (CROSS) STARTING @	3:00	PA 2 0308	3:00	4134 1400	3:00	ACTUE WFOO	3:00	82 NEWER (CROSS) STARTING @	3:00	PA 2 0315	3:00	4135 1400	3:00	ACTUE WFOO	3:00	83 NEWER (CROSS) STARTING @	3:00	PA 2 0322	3:00	4136 1400	3:00	ACTUE WFOO	3:00	84 NEWER (CROSS) STARTING @	3:00	PA 2 0329	3:00	4137 1400	3:00	ACTUE WFOO	3:00	85 NEWER (CROSS) STARTING @	3:00	PA 2 0336	3:00	4138 1400	3:00	ACTUE WFOO	3:00	86 NEWER (CROSS) STARTING @	3:00	PA 2 0343	3:00	4139 1400	3:00	ACTUE WFOO	3:00	87 NEWER (CROSS) STARTING @	3:00	PA 2 0350	3:00	4140 1400	3:00	ACTUE WFOO	3:00	88 NEWER (CROSS) STARTING @	3:00	PA 2 0357	3:00	4141 1400	3:00	ACTUE WFOO	3:00	89 NEWER (CROSS) STARTING @	3:00	PA 2 0404	3:00	4142 1400	3:00	ACTUE WFOO	3:00	90 NEWER (CROSS) STARTING @	3:00	PA 2 0411	3:00	4143 1400	3:00	ACTUE WFOO	3:00	91 NEWER (CROSS) STARTING @	3:00	PA 2 0418	3:00	4144 1400	3:00	ACTUE WFOO	3:00	92 NEWER (CROSS) STARTING @	3:00	PA 2 0425	3:00	4145 1400	3:00	ACTUE WFOO	3:00	93 NEWER (CROSS) STARTING @	3:00	PA 2 0432	3:00	4146 1400	3:00	ACTUE WFOO	3:00	94 NEWER (CROSS) STARTING @	3:00	PA 2 0439	3:00	4147 1400	3:00	ACTUE WFOO	3:00	95 NEWER (CROSS) STARTING @	3:00	PA 2 0446	3:00	4148 1400	3:00	ACTUE WFOO	3:00	96 NEWER (CROSS) STARTING @	3:00	PA 2 0453	3:00	4149 1400	3:00	ACTUE WFOO	3:00	97 NEWER (CROSS) STARTING @	3:00	PA 2 0500	3:00	4150 1400	3:00	ACTUE WFOO	3:00	98 NEWER (CROSS) STARTING @	3:00	PA 2 0507	3:00	4151 1400	3:00	ACTUE WFOO	3:00	99 NEWER (CROSS) STARTING @	3:00	PA 2 0514	3:00	4152 1400	3:00	ACTUE WFOO	3:00	100 NEWER (CROSS) STARTING @	3:00	PA 2 0521	3:00	4153 1400	3:00	ACTUE WFOO	3:00	101 NEWER (CROSS) STARTING @	3:00	PA 2 0528	3:00	4154 1400	3:00	ACTUE WFOO	3:00	102 NEWER (CROSS) STARTING @	3:00	PA 2 0535	3:00	4155 1400	3:00	ACTUE WFOO	3:00	103 NEWER (CROSS) STARTING @	3:00	PA 2 0542	3:00	4156 1400	3:00	ACTUE WFOO	3:00	104 NEWER (CROSS) STARTING @	3:00	PA 2 0549	3:00	4157 1400	3:00	ACTUE WFOO	3:00	105 NEWER (CROSS) STARTING @	3:00	PA 2 0556	3:00	4158 1400	3:00	ACTUE WFOO	3:00	106 NEWER (CROSS) STARTING @	3:00	PA 2 0603	3:00	4159 1400	3:00	ACTUE WFOO	3:00	107 NEWER (CROSS) STARTING @	3:00	PA 2 0610	3:00	4160 1400	3:00	ACTUE WFOO	3:00	108 NEWER (CROSS) STARTING @	3:00	PA 2 0617	3:00	4161 1400	3:00	ACTUE WFOO	3:00	109 NEWER (CROSS) STARTING @	3:00	PA 2 0624	3:00	4162 1400	3:00	ACTUE WFOO	3:00	110 NEWER (CROSS) STARTING @	3:00	PA 2 0631	3:00	4163 1400	3:00	ACTUE WFOO	3:00	111 NEWER (CROSS) STARTING @	3:00	PA 2 0638	3:00	4164 1400	3:00	ACTUE WFOO	3:00	112 NEWER (CROSS) STARTING @	3:00	PA 2 0645	3:00	4165 1400	3:00	ACTUE WFOO	3:00	113 NEWER (CROSS) STARTING @	3:00	PA 2 0652	3:00	4166 1400	3:00	ACTUE WFOO	3:00	114 NEWER (CROSS) STARTING @	3:00	PA 2 0659	3:00	4167 1400	3:00	ACTUE WFOO	3:00	115 NEWER (CROSS) STARTING @	3:00	PA 2 0706	3:00	4168 1400	3:00	ACTUE WFOO	3:00	116 NEWER (CROSS) STARTING @	3:00	PA 2 0713	3:00	4169 1400	3:00	ACTUE WFOO	3:00	117 NEWER (CROSS) STARTING @	3:00	PA 2 0720	3:00	4170 1400	3:00	ACTUE WFOO	3:00	118 NEWER (CROSS) STARTING @	3:00	PA 2 0727	3:00	4171 1400	3:00	ACTUE WFOO	3:00	119 NEWER (CROSS) STARTING @	3:00	PA 2 0734	3:00	4172 1400	3:00	ACTUE WFOO	3:00	120 NEWER (CROSS) STARTING @	3:00	PA 2 0741	3:00	4173 1400	3:00	ACTUE WFOO	3:00	121 NEWER (CROSS) STARTING @	3:00	PA 2 0748	3:00	4174 1400	3:00	ACTUE WFOO	3:00	122 NEWER (CROSS) STARTING @	3:00	PA 2 0755	3:00	4175 1400	3:00	ACTUE WFOO	3:00	123 NEWER (CROSS) STARTING @	3:00	PA 2 0802	3:00	4176 1400	3:00	ACTUE WFOO	3:00	124 NEWER (CROSS) STARTING @	3:00	PA 2 0809	3:00	4177 1400	3:00	ACTUE WFOO	3:00	125 NEWER (CROSS) STARTING @	3:00	PA 2 0816	3:00	4178 1400	3:00	ACTUE WFOO	3:00	126 NEWER (CROSS) STARTING @	3:00	PA 2 0823	3:00	4179 1400	3:00	ACTUE WFOO	3:00	127 NEWER (CROSS) STARTING @	3:00	PA 2 0830	3:00	4180 1400	3:00	ACTUE WFOO	3:00	128 NEWER (CROSS) STARTING @	3:00	PA 2 0837	3:00	4181 1400	3:00	ACTUE WFOO	3:00	129 NEWER (CROSS) STARTING @	3:00	PA 2 0844	3:00	4182 1400	3:00	ACTUE WFOO	3:00	130 NEWER (CROSS) STARTING @	3:00	PA 2 0851	3:00	4183 1400	3:00	ACTUE WFOO	3:00	131 NEWER (CROSS) STARTING @	3:00	PA 2 0858	3:00	4184 1400	3:00	ACTUE WFOO	3:00	132 NEWER (CROSS) STARTING @	3:00	PA 2 0905	3:00	4185 1400	3:00	ACTUE WFOO	3:00	133 NEWER (CROSS) STARTING @	3:00	PA 2 0912	3:00	4186 1400	3:00	ACTUE WFOO	3:00	134 NEWER (CROSS) STARTING @	3:00	PA 2 0919	3:00	4187 1400	3:00	ACTUE WFOO	3:00	135 NEWER (CROSS) STARTING @	3:00	PA 2 0926	3:00	4188 1400	3:00	ACTUE WFOO	3:00	136 NEWER (CROSS) STARTING @	3:00	PA 2 0933	3:00	4189 1400	3:00	ACTUE WFOO	3:00	137 NEWER (CROSS) STARTING @	3:00	PA 2 0940	3:00	4190 1400	3:00	ACTUE WFOO	3:00	138 NEWER (CROSS) STARTING @	3:00	PA 2 0947	3:00	4191 1400	3:00	ACTUE WFOO	3:00	139 NEWER (CROSS) STARTING @	3:00	PA 2 0954	3:00	4192 1400	3:00	ACTUE WFOO	3:00	140 NEWER (CROSS) STARTING @	3:00	PA 2 1001	3:00	4193 1400	3:00	ACTUE WFOO	3:00	141 NEWER (CROSS) STARTING @	3:00	PA 2 1008	3:00	4194 1400	3:00	ACTUE WFOO	3:00	142 NEWER (CROSS) STARTING @	3:00	PA 2 1015	3:00	4195 1400	3:00	ACTUE WFOO	3:00	143 NEWER (CROSS) STARTING @	3:00	PA 2 1022	3:00	4196 1400	3:00	ACTUE WFOO	3:00	144 NEWER (CROSS) STARTING @	3:00	PA 2 1029	3:00	4197 1400	3:00	ACTUE WFOO	3:00	145 NEWER (CROSS) STARTING @	3:00	PA 2 1036	3:00	4198 1400	3:00	ACTUE WFOO	3:00	146 NEWER (CROSS) STARTING @	3:00	PA 2 1043	3:00	4199 1400	3:00	ACTUE WFOO	3:00	147 NEWER (CROSS) STARTING @	3:00	PA 2 1050	3:00	4200 1400	3:00	ACTUE WFOO	3:00	148 NEWER (CROSS) STARTING @	3:00	PA 2 1057	3:00	4201 1400	3:00	ACTUE WFOO	3:00	149 NEWER (CROSS) STARTING @	3:00	PA 2 1104	3:00	4202 1400	3:00	ACTUE WFOO	3:00	150 NEWER (CROSS) STARTING @	3:00	PA 2 1111	3:00	4203 1400	3:00	ACTUE WFOO	3:00	151 NEWER (CROSS) STARTING @	3:00	PA 2 1118	3:00	4204 1400	3:00	ACTUE WFOO	3:00	152 NEWER (CROSS) STARTING @	3:00	PA 2 1125	3:00	4205 1400	3:00	ACTUE WFOO	3:00	153 NEWER (CROSS) STARTING @	3:00	PA 2 1132	3:00	4206 1400	3:00	ACTUE WFOO	3:00	154 NEWER (CROSS) STARTING @	3:00	PA 2 1139	3:00	4207 1400	3:00	ACTUE WFOO	3:00	155 NEWER (CROSS) STARTING @	3:00	PA 2 1146	3:00	4208 1400	3:00	ACTUE WFOO	3:00	156 NEWER (CROSS) STARTING @	3:00	PA 2 1153	3:00	4209 1400	3:00	ACTUE WFOO	3:00	157 NEWER (CROSS) STARTING @	3:00	PA 2 1200	3:00	4210 1400	3:00	ACTUE WFOO	3:00	158 NEWER (CROSS) STARTING @	3:00	PA 2 1207	3:00	4211 1400	3:00	ACTUE WFOO	3:00	159 NEWER (CROSS) STARTING @	3:00	PA 2 1214	3:00	4212 1400	3:00	ACTUE WFOO	3:00	160 NEWER (CROSS) STARTING @	3:00	PA 2 1221	3:00	4213 1400	3:00	ACTUE WFOO	3:00	161 NEWER (CROSS) STARTING @	3:00	PA 2 1228	3:00	4214 1400	3:00	ACTUE WFOO	3:00	162 NEWER (CROSS) STARTING @	3:00	PA 2 1235	3:00	4215 1400	3:00	ACTUE WFOO	3:00	163 NEWER (CROSS) STARTING @	3:00	PA 2 1242	3:00	4216 1400	3:00	ACTUE WFOO	3:00	164 NEWER (CROSS) STARTING @	3:00	PA 2 1249	3:00	4217 1400	3:00	ACTUE WFOO	3:00	165 NEWER (CROSS) STARTING @	3:00	PA 2 1256	3:00	4218 1400	3:00	ACTUE WFOO	3:00	166 NEWER (CROSS) STARTING @	3:00	PA 2 1303	3:00	4219 1400	3:00	ACTUE WFOO	3:00	167 NEWER (CROSS) STARTING @	3:00	PA 2 1310	3:00	4220 1400	3:00	ACTUE WFOO	3:00	168 NEWER (CROSS) STARTING @	3:00	PA 2 1317	3:00	4221 1400	3:00	ACTUE WFOO	3:00	169 NEWER (CROSS) STARTING @	3:00	PA 2 1324	3:00	4222 1400	3:00	ACTUE WFOO	3:00	170 NEWER (CROSS) STARTING @	3:00	PA 2 1331	3:00	4223 1400	3:00	ACTUE WFOO	3:00	171 NEWER (CROSS) STARTING @	3:00	PA 2 1338	3:00	4224 1400	3:00	ACTUE WFOO	3:00	172 NEWER (CROSS) STARTING @	3:00	PA 2 1345	3:00	4225 1400	3:00	ACTUE WFOO	3:00	173 NEWER (CROSS) STARTING @	3:00	PA 2 1352	3:00	4226 1400	3:00	ACTUE WFOO	3:00	174 NEWER (CROSS) STARTING @	3:00	PA 2 1359	3:00	4227 1400	3:00
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**INCLUDES: 17" Monitor**

## System#2

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Windows XP, Speakers,  
64MB GeForce2 Video Card,  
Keyboard and Mouse, 1 Year Warranty.

~~\$1499.95~~

**INCLUDES: 17" Monitor**

### System#3

Intel Pentium 4 2.40GHz, 256MB RAM,  
60GB Hard Drive, 48X16X48 CD-RW, Floppy.

16X DVD, LAN, Modem, Windows XP,  
2 Surround Speakers,  
64MB GeForce 2 Video Card,  
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**\$1499.95**

INCLUDES: 17" Monitor





- I tagged every online payment, money order, or cheque into the spreadsheet, and printed spreadsheets on a Hewlett-Packard 4500CN colour laser printer for the items that had just been paid for. I found a colour printer extremely useful, as I'd colour-coded the different fields to show changes in status: listed/not listed, pending/paid, shipped/awaiting shipment, and so on. The 4500 shipped away for months without a hiccup.
- In the afternoon I packed shipments, and took them to Canada Post for mailing, and went to the bank to deposit the money orders and cheques I'd received that day.
- I transferred PayPal and Billpoint payments directly into my eBay account. eBay electronically transferred postage and selling charges and other charges from my credit card account, and PayPal deducted its fees as well.
- In the evening, I pulled new stock from the boxes of model kits in the attic, identified and numbered them from the fiscal catalogue, and photographed them with a Fuji 5900 Pro digital camera.
- Using Adobe Photoshop Elements, I

cropped and sized the images to the format eBay accepted for auction item illustrations.

- Then, using the Google search engine, I researched the histories of the ships and places on which the model kits I was posting that day were based.
- I wrote the ad copy in Word, then cut and pasted it into the store listings using the Selling tools on the eBay site.

At least, the above routine was the ideal that I tried to achieve. I also had to juggle my freelance writing deadlines, household chores, vacations, kids' summer activities, and family gatherings. In practice, I spent about 10 hours a week on eBay-related activity. There were times when, due to travel or other factors, I fell behind for a day or two, and the lots of anxious eBay buyers' emails got me going again.

#### Cost control

My largest single expense was shipping (packaging and mailing costs). I was mailing models all over the world, from Germany to New Zealand to Taiwan. I found a local company that sold quality shipping supplies (boxes, tape, bubblewrap, and plastic "peanuts"), and bought at quantity discount prices. My decision to pack with new materials and to do it right paid off, with only a couple of items out of more than 1,000 shipments being damaged in transit. I referred constantly to the Canada Post International mailing rate guide (twosomewhat.com), and learned to pack orders as small and light as possible, to get the best rates, without risking the fragile contents.

The next largest cost was eBay's array of fees for listing, displaying, and selling items. Also, the PayPal service deducted payment and currency conversion fees, while my bank also charged for currency conversion of U.S. money orders, and other bank fees.

Tackling all my costs with the Excel spreadsheet, I found I had a sell-through rate of over 85 percent, and my selling costs were about 40 percent of my gross sales.

#### The eBay community

##### Where reputation is golden

Of all the positive results of my eBay summer, perhaps the one I was most proud of was the feedback that was post-

ed on eBay by my customers. I got more than 500 mostly glowing, positive reviews, and only one negative (I had deserved it, as I was slow with fulfilling that order and slow answering his emails). When I made mistakes, I admitted it, and provided some sort of compensation to the aggrieved buyer, in the form of a break on shipping costs, or a free or discounted item.

At one point, I became too successful, as I surpassed the new seller's limit of US\$1,500 per month in billpoint payments. This time, eBay was kind in its application of the rules: They credited my buyer feedback, and immediately raised my monthly payment limit to US\$7,500.

#### The way was

My conclusion about eBay is that it is one of the easiest profit shays to have come out of the Internet, despite my gripe about the arbitrary deletion of my original listings. I am overwhelmed by the brilliance and smooth functionality of this thing.

If you're running a small business, you could liberally set up your own online shop, probably with fairly serious

*(Continued on page 54)*

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# Your multimedia sidekick

## Handhelds come alive with audio and graphics capabilities

By Dave Chappelle

What should you look for in a handheld computer? Most people are familiar with the handheld's electronic organizer functions—storing addresses, phone numbers, appointments, notes, and other pertinent information, and synchronizing it with information on your desktop computer—but even the cheapest handhelds available today can do that much.

The latest and greatest of these devices are now capable of a lot more: playing MP3s; video playback; digital photo album viewer; or e-book reader. Some Internet-ready handhelds allow Web surfing, emailing, and messaging, and others can be networked for exchanging information in a corporate or institutional setting. And if a desired feature isn't built into the device, many include expansion slots that allow you to literally plug in an accessory or extra memory to expand its feature set and storage capacity.

Manufacturers are now creating devices in a variety of shapes, too. So, in your hunt for that perfect personal digital assistant, you'll need to consider size, weight, screen size, colour depth and brightness, battery life, the position and dimension of controls, and how the device feels in your hand. PDAs with colour displays cost more than monochrome models, but even a basic colour screen can offset the inherent limitations of a small display.



In North America, there are two main handheld operating systems: Palm and Windows (including Windows CE and, more recently, Windows for Pocket PC). Palm won't be the first handheld, but it has been a runaway success, with Palm OS-based devices still comprising the lion's share (about 70 percent) of the Canadian handheld market.

In the past, Windows-based handhelds were bigger and more powerful but also more power hungry, while Palm-based devices were smaller and less powerful, but could run for weeks on a single charge. However, that distinction is breaking down.

Consider two examples: the Intel

Palm OS-based Sony Clie models are a 300 MHz processor (lower end Palm-based devices like the new Zire, use a 16 MHz processor) and have full multimedia capabilities, while the new Pocket PC-based Toshiba handhelds are nearly the same size as Palm's own colour devices.

One of the future directions for both platforms is the incorporation of cell phone technology.

In terms of basic productivity features, the Pocket PC devices come with tools that match and are generally compatible with the desktop version of Microsoft's Office suite. All Pocket PCs will have Word, Excel, Outlook, and Internet Explorer. This would appear to give this platform an advantage for business use, but most Palm devices accomplish a similar kind of compatibility between office applications and handheld data by including Documents To Go or other conversion software. One of the benefits of Documents To Go in particular is that it will also work with Corel's WordPerfect and Quattro Pro, not just Microsoft's suite.

For multimedia uses, Pocket PC devices include Windows Media Player, a voice recorder, and Microsoft Reader (e-book software), giving the Pocket PC platform a definite advantage. Again, this is changing with introduction of Palm

OS-powered multimedia devices like Sony's Clie—models at the top of this list will give any Pocket PC a run for its money.

In this report, we look at handheld computers with colour displays. Apart from the screens, however, the models vary widely in both price and feature set—an indication of what you will confront when you begin shopping.

### Canon Casiopeia BE-300

Price: Low Canada, [www.canon.ca/cancon](http://www.canon.ca/cancon)

Price: \$299.99

OS: Windows CE 3.0

Interface: USB

Warranty: 1 year

Price: Price expandability (CompactFlash II slot for memory, communication, and screen options).

Core: Runs only applications designed for BE-500 Pocket Manager platform (i.e. not yet networked with applications written for Windows CE 3.0).

Canon divides its Casiopeia handheld products into two subgroups: the Pocket PC line, which uses the current-generation Pocket PC 2002 OS, and the Pocket Manager line (including the BE-300 reviewed here), which used Windows CE 3.0. Although that OS is somewhat dated, a more significant issue is that it appears to be a non-standard implementation. In red letters on the Canon site is a warning that the BE-300 will only run software designed for the Pocket Manager platform.

This may or may not be a limitation depending on what you need to do with a handheld. The selection of available applications is not bad, and even includes a movie player. We recently saw the BE-300 advertised for \$120, making it a potentially excellent value.

This Casiopeia measures 126.7 x 51 mm (5 x 2 in.), and has a hinged, translucent cover that opens up to reveal a 7.7x5.3 cm (3.0 x 2.1 in.) display.

There are several choices of colour palette, and adjustments for brightness and contrast. One-tap application launch buttons are along the bottom of the device. On the top is a Type II CompactFlash (CF) slot, which will accept add-on devices, such as a camera with 640x480 resolution, wireless

Continued on page 40



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# **Your multimedia sidekick**

Continued from page 38

modems, or memory cards (all of which are sold separately).

An optional serial modem and external power pack can be attached to the synchronization interface on the bottom of the device between the AC power and handy phone jacks.



# **Compaq iPaq H1450 Pocket PC**

From Compaq, www.compaq.com

Price: \$570

OS: Microsoft Pocket PC, 2000

Interface: serial

Warranty: 1 year (next business day optional)

Pros: Clear display, audio recording

Cons: Almost everything is an option, including USB sync cable



The first-way camera is centered between the OK and Escape buttons, which brings convenient Another button brings back the main screen. The size of the buttons and lack of side controls might make this unit easy to use while wearing gloves, handy when waiting for a bus or cab during winter months in Canada.

Of all the Pocket PC brands, the most successful has been Compaq's iPaq series. If you're familiar with previous models, this latest one will look familiar. Over-rough buttons and a four-way scroll rocker switch are directly underneath the full-on (2.345-in.) display. The screen is protected by a translucent, plastic cover

with a flexible hinge system that can be mounted on either side of the device, depending on a user's handedness. A Secure Data (SD) recovery slot is on top (A CF slot can be added with an optional sleeve). A serial sync cable is standard, but a "universal" cable with both USB and serial connectors is optional.

The Record feature is integrated directly from the Notes section, allowing you to make voice memos rather than write text notes. Pocket versions of Word and Excel are installed, as are Internet Explorer and Windows Media Player.

The backlight can be adjusted through software controls.

# **Palm M100**

From Palm, www.palm.com

Price: \$200

OS: Palm OS

Interface: USB

Warranty: 1 year

Pros: Fast, easy to learn, plenty of options as Palm has long history in handheld field.

Cons: Lack of features of other units, basic recovery is expensive

Palm is the market share leader in handheld computers, so there are plenty of

attachments and third-party applications for Palm handhelds.

The m100—which measures 126.7 mm (4.95 in.)—is Palm's entry-level colour unit. (The company's previous colour model—the m515—is thinner and a bit lighter, but with a larger display and more memory.) This device doesn't



have a lot of fancy features, but is fairly easy to figure out. The manual, including one for the Graffiti handwriting system, is always available from the main screen. A thorough tutorial is launched upon powering up for the first time.

Like all current handhelds from Palm,

Continued on page 42

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# Your multimedia sleekbit

Continued from page 40

the m130 comes with the AvantGo Web browser, MGI PhotoSuite Mobile Edition, and Palm Reader (e-book viewer software).

The display is 4.8x4.8 cm (1.9x1.9 in.), below it a 4.8x4.8 cm (1.9x1.9 in.) area below it for writing and one-on-one task screen. An opaque cover has a small hole that allows you to see if the unit is on.

The one touch buttons below the display are easy to operate. The cursor only scrolls up and down, but the D8 doesn't require sideways navigation anyway. When writing, with the stylus you can choose between thick and thin lines.

If you anticipate traveling longer than the expected battery life, be prepared to take the base with you as the m130 doesn't have a separate AC power input for recharging the battery.

## See It: PEG-NEOW

From: Sony Canada, www.sony.ca

Price: \$799

OS: Palm OS

Screen: 1.9

Warranty: 1 month

Pros: Built-in camera, multimedia capability, built-

in keyboard, flexible display, 5200-processor  
Cons: Memory Stick media is not widely used in other devices, requires base for recharging battery

At 13.5x7.2x3.6 cm (5.2x2.8x1.4 in.) when closed, the Clit (pronounced "klee-y") is slightly longer than most Palm devices. The basic design of this unit is a clamshell—the top half opens up revealing the display, while the bottom holds a small QWERTY keyboard and familiar Palm function buttons. The



screen rotates 180 degrees, so you can use it with the unit closed and the screen facing out, like a typical handheld, or like a

tiny notebook computer with the lid open, the keyboard on a table surface and the screen facing you. The Clit also includes a camera that is built into the hinge area of the device. The lens rotates through 180 degrees (self-portraits anyone?).

The rotating knob on the left side of the device can be used to scroll through pull-down menus, and the track button next to it helps with navigation. Earphones are included for listening to MP3 and AAC/ATRAC3 format audio files. The Clit is networkable, and can even play video using the GMovie software.

For removable media, the Clit has a slot for Memory Stick cards.

Recharging the battery is accomplished by plugging the Clit into the base—so, like the Palm m130, be prepared to pack the base with you for longer trips.

We like this Clit a lot and think it represents the most advanced development so far on a Palm-powered device. Either this year we gave the Clit a VIP award.

## Toshiba Pocket PC e740

From: Toshiba Canada, www.toshiba.ca

Price: \$249

OS: Microsoft Pocket PC 2002

Interface: USB

Warranty: 1 year

Pros: Excellent display, versions of popular software apps

Cons: Poor, noisy-sounding recording



When we first saw Toshiba's e740 earlier this year, we were impressed—here was a Pocket PC device whose size and weight we most often associated with Palm devices.

That model has been joined by the e760, which is slightly thicker and heavier, but with a faster processor and more memory. The e740 measures 9x12.5x1.5 cm (3.5x4.9x0.6 in.) and weighs 185 g (6.5 oz.)—slightly thicker and 45 g (1.5



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# Forget home videos, DVD's the thing

By Dave Tweed

As the father of a two-year-old, I see day-based to record and capture every shining moment, of his antics—all of which naturally point to his innate genius and *Moby* future as a physicist, neurosurgeon, rock star, or some combination thereof. And we can't risk out the possibility of all three.

The obvious choice was, of course, to make a DVD of his exploits. (Videotape is so 20th century.) With DVD recorders becoming ever more affordable, I put a few packages through their paces, all with the same objective to see if I could make a disc that looked so professional that people would think *Moby* was starring in a Hollywood movie (and they saw the bit with him running through the house naked) using an application that costs under \$800. So this time, I recorded 35 minutes of raw footage on a Sony Handycam, and transferred the first 15 minutes to my PC through a FireWire connection using Windows Movie Maker.

## MyDVD 3.5

From Sonic Solutions, [www.mysd.com](http://www.mysd.com)  
Retailer with Hewlett-Packard DVD-RW drives

At the lowest end of the price spectrum was Sonic Solutions' MyDVD 3.5, which came bundled with the Hewlett-Packard DVD-RW drive I used for my tests. (I should state at the outset that I chose the DVD because when I looked at other packages earlier in the year, some manufacturers had problems with DVD-RW drives. I'm happy to report that all of the programs tested here wrote to DVD-RW and DVD-R/RW discs, and all, except for DVD Workshop, write to DVD-RW.)

MyDVD doesn't offer anything too fancy (the goal is to convince you to upgrade to the more recent, feature-packed MyDVD 4.0), but it works fairly well. All you need to do is select a prebuilt menu background, then drag and drop AVI, MPEG, or QuickTime files onto it.

You also have the option of recording a clip directly from a DV camera or through a capture board—you can't edit the clip, however. You have to hope that your capture board can keep up, though when I tried capturing full-frame

(720x480 pixel) video with an All-in-Wonder Radeon on a 733 MHz Pentium III system, the video stuttered after a jerky 30 frames per second (fps) or so. The benefit is that you can add chapter points while recording either automatically (at preset intervals) or manually (by pressing the spacebar in the preview video plays onscreen).

Thanks to the ability to replace a clip's soundtrack using any audio file, and you've got the best of MyDVD's customization options. It's incredibly clear and easy to use, but you have to edit your clips beforehand and you can't insert chapter points unless you take a chance with capturing video.



Because my goal was a disc that was meticulously designed from top to bottom, I favored the control offered by Ulead DVD Workshop and Sonic VideoWare 5 Power Edition. Before starting, I worked out a rough idea of how I wanted the DVD to look.

I constructed a black-and-white image cascading into a circular one with a short menu clip playing; then the main menu would appear, with options to either play the disc from the beginning or go to a title selection menu. Each title would have several chapters, starting with a short introductory screen and some music. I collected my raw materials—the downloaded DV clip, the DV camera, title images I'd created in Photoshop, and ripped CD tracks—and got to work.

## DVD Workshop 3.5

From Ulead, [www.ulead.com](http://www.ulead.com)  
Estimated street price: \$69

With DVD Workshop, I almost got the job done exactly as I wanted. The title bar divides the authoring process into five steps: Start, Capture, Edit, Menu, and Finish. Start defines the project parameters and finally burns the disc, but once

you get started you can move between the other three steps any way you please.

On the lower left of the DVD Workshop screen is a library of video clips, audio clips, and still images. I dragged Captures and went straight to edit, where I dragged a series of clips onto the Title bar strip at the bottom of the screen.



creating a sequence of thumbnails. The first spot in the strip is the First Play clip—the animation that will be played when the DVD is first placed in the player. The rest are the video clips and still images that make up the titles on the disc. Double-clicking on a thumbnail brought it up in an editing window, where I could mask it and use points to replace the soundtrack with an audio clip.

DVD Workshop is fairly intuitive, and I was able to get everything arranged in short order. (Things went even faster when I discovered I could play only the marked-off segments of a video clip by holding Shift while clicking Play. It would have been nice had that rather appeared somewhere onscreen, rather than exclusively in the part of the manual no one will read because they already know how to use VCR controls.)

When I needed to grab some clips I hadn't downloaded, I captured them through DVD Workshop easily. There was one hitch, though: I couldn't control how long still images would stay onscreen. The control was ghosted no matter what I did.

Everything comes together in the Menu step, which was a pleasure to use. The level of control was amazingly astounding. I was free to have animated or still backgrounds and hotspots. For that matter, I could use a thumbnail other than the first frame of a clip for a hotspot—or just use text alone, if I was so inclined, which was a welcome change from most programs I've used.

Copping styles (for example, text and

highlight colors, drop-shadow settings, and font size) between hotspots was simple and quick. I could select different audio clips to accompany different menus. And menus could easily be linked to each other with text or graphic hotspots, making intricate menu structures a snap to create.

When I was finished, I used DVD Workshop's preview function to make sure the menus worked as planned. Oddly enough, I couldn't use the onscreen remote to stop back and forth between chapter points; in fact, I couldn't do anything but play, pause, stop, or return to the previous menu.

Chapter points turned out to be the most frustrating aspect of DVD Workshop. I'd forgotten that chapter points have to be set within a single video clip because the titles I created were largely assembled from different clips. I couldn't set chapter points at scene breaks as I'd intended, in effect. I'd have had to put the clips together with a video editor before ever bringing them into DVD Workshop.

## VideoWare 5 Power Edition

From Base, [www.base.com](http://www.base.com)  
Estimated street price: \$40

Rough VideoWare 5 Power Edition (which is nearly identical to the earlier VideoWare 5) has the same limitation, but at least it has the benefit of including a fairly powerful video editor—in fact, VideoWare is a video editor, which happens to include a DVD authoring component.



You can approach DVD authoring in one of two ways in VideoWare: jump straight into the authoring module, which limits you to importing only a handful of video and image formats and allows no editing (except for setting chapter points), or edit your clips exactly as you want them—or just convert them,

Continued on page 46

# Small Office Technology

Solutions for Small Business • Connecting Home & Work

## Assessing productivity

Is your business making the most of its hardware, software?

By Carl Wheelwright

**O**K, so you are small, run a Web site, do all of your financial planning on spreadsheets, run your company's books on a popular accounting package, and create your own flyers and business cards using your desktop PC and a high-end inkjet printer. But are you really getting a significant productivity improvement from the technology you use in your small business?

There are two ways of answering this question. The first is to say if all of this technology you stolen and I had to operate my business tomorrow without it, how would I do? The answer is that it would probably be pretty tough, as you likely have your business's entire financial life sitting on your hard drive (and hopefully backed up on floppy disks or CDs) along with a lot of your correspondence, that that doesn't really tell you much about productivity—it just says that you have a degree of dependence on the technology.

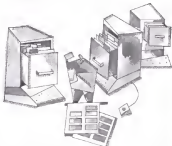
The second way of asking the question—and the one that is a lot more telling—is simply this: to what extent do I use the full capabilities of the hardware and software tools I possess? Chances are

you probably don't know the answer to this question. After all, how are you supposed to know about features you haven't used yet?

Perhaps a little tale from the software development industry will make the answer a little more clear. Back in 1996, when Microsoft was dragging the product that would eventually become Microsoft Office 97, the company was

figuring out what additional features it could possibly add to improve the capabilities of this popular suite of "productivity" applications. As part of that process, the company took out newspaper ads asking "what has" from users about what new features they would like to see added to Office.

Surprise it to say that the results revealed a lot more about how people



## IT power for Mr. Forklift

New systems for winner of The Computer Paper-Microsoft Canada small business makeover competition

By Brandi Isomae

**T**he winner of The Computer Paper-Microsoft Canada ([www.microsoft.com/smallbusiness](http://www.microsoft.com/smallbusiness)) small business makeover competition, Mr. Forklift ([www.mforklift.com](http://www.mforklift.com)) of Concord, Ont., recently went through an extensive makeover process that promises to dramatically change the IT picture for the small company. Mr. Forklift sells, services, and rents forklift equipment and ergonomic equipment, and offers custom material handling fabrication and design to major clients, such as Loblaw and SPS Werco. In April 1999, Adam Columbus started the small company, which has grown to include a staff of 21.

Like many small business owners, Columbus found he was spending less time on his own business, because he was forced to maintain his computer network without the benefit of an IT department—something larger companies take for granted.

Continued on page 45

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# IT power for Mr. Forthill

Continued from page 44

"I hoped that [the servers provided by the vendors] would significantly reduce the time I spend battling with my network and computers," says Columbus. "It demands far too much of my time, cutting me a piece of productivity."

Ms. Forthill depends on its information technology to manage staff and resources, as a reliable, stable network is a priority. "It's all about people management and delegation of responsibility," says Columbus.

The price package for the small business makeover competition included server hardware, software, and the services of a Microsoft Solutions Provider to handle the installation. GENX Solutions (www.genx.ca) was chosen to set up the Mr. Forthill IT makeover. According to GENX Solutions operations manager Eric Lo, the implementation went smoothly.

"Mr. Forthill can now share files and network resources reliably," says Lo. "There has reduced downtime and improved staff productivity. Most importantly, Adam can focus on his business without spending endless hours tackling network problems."

The primary server installed during the makeover is a Compaq ProLiant ML350 Generation 2 Server with a 1.3 GHz Intel Pentium III processor, 512 MB RAM, and two 18.2 Gb hot-pluggable mirrored hard drives, all of which is protected by an APC Smartups 700 NET uninterruptible power supply. The Virtual Private Network (VPN) is implemented with a Netel Gateway 100 switch.

On the server, GENX installed Microsoft Small Business Server 2000. Applications included in Small Business Server are Microsoft Windows 2000 Server, Microsoft Exchange 2000 Server,

Microsoft SQL Server 2000, Microsoft Internet Security, and Acceleration Server 2000. On the existing PC workstations, GENX installed Office XP with Outlook XP.

The implementation took one and a half weeks from start to finish, with only a few minor hardware glitches. Two consultants were assigned to the project, which took a total of 60 hours in complete.

The biggest challenge was integrating Mr. Forthill's system with Mantrac (www.mantrac.com), an application service provider (ASP) based in the U.S. Mantrac's ASP Hosting Service infra-structure hosts, maintains, and protects application software and business critical data for left track distributors. Since Mantrac is Mr. Forthill's main business system, GENX had to provide a speedy, secure, and reliable connection working as seamlessly with the ASP.

The new Windows 2000 Server automates all user access and applies access control to the network so Mr. Forthill now has a uniform security policy that is applied to all sensitive data. Mr. Forthill can now accomplish a lot more with the same amount of internal resources. Productivity should be improved through reduced downtime, better collaboration between staff members, better sharing of business information, more efficient external communications, and more responsive decision making. Remote access to Outlook's contact management, task management, email, and calendar programs now allows Mr. Forthill's mobile sales staff to communicate with their office counterparts through any Web browser.

"The biggest challenge in an installation of this kind is coordinating with the owner and management," says Lo. "Small business owners are usually over-

whelmed with the daily responsibility of running their businesses. They tend to wait for a problem to arise, fixing it on the run, rather than looking ahead to prevent problems. Often, they will install a backup solution after a data loss, until an anti-virus solution after a virus attack, or set up power backups after an electrical disaster. They don't have the time or budget to investigate and plan out IT solutions in advance."

At the same time, service providers who focus on "corporate" solutions often fail to appreciate the unique challenges faced by small business owners with limited resources in terms of time and money.

One of the pressures on GENX during this makeover was the need for rapid implementation. GENX had to allocate sufficient manpower to being on the solution on Mr. Forthill's schedule.

Limiting interruption to businesses during implementation was a related challenge. "Nobody wants daily schedules interrupted, yet downtime is inevitable when implementing a new system. In Mr. Forthill's case, Columbus is busy and was rarely in the office. The GENX team had to be extremely flexible in fitting

new busy schedules of the entire office during implementation.

A fact of life with many small businesses is that they almost never have in-house IT expertise. Their support needs are frequent, short, and intermittent. While not part of the makeover price package, GENX offers an online support option and charges customers on a calendar interval, avoiding unnecessary travel and maintaining costs.

Microsoft Canada is confident as Windows 2000 Small Business Server package (SBS 2000) will be able to drastically change the daily workload faced by Mr. Forthill.

"SBS 2000 provides small businesses with a comprehensive server solution to successfully Internet-enable their operations, manage and develop customer relationships and enhance employee productivity," says Scott Jackson, product marketing manager for Microsoft Canada's small business server group.

"It enables small businesses to take advantage of the Internet, strengthen customer relationships, and improve productivity. Providing small businesses with all the necessary applications in one

(Continued on page 46)

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# Assessing productivity

Continued from page 46

used its existing product then it did on helping craft a list of new features that should be added to Office 2 turned out that 90 percent of the features requested by users already existed in the product! They were just as hard to find that most users never tried them.

As a result, Microsoft put a lot of energy into the "discoverability" of its product features in Office 2—and every version of the suite released since then. The idea was to make Office reach more "task-based" than product-based. As a result, when you open up a new document in Office 2, for example, you see a set of options on the right-hand window pane that allow you to choose what type of document you want to create (a blank document, Web page, email message, or one from a set of general or specific templates, for example).

The templates are an interesting example of a software company trying to "think like a user." Office XP's general templates include everything from calendars to brochures to academic documents to letters to faxes to Web pages. And if that isn't enough, there's a link to

Microsoft.com where you can access many more—including templates for restaurant menus, party invitations, employee dismissal notices (which have been created specifically for the Canadian market), and so on.

I guess the key point here is that almost every piece of software you use can do a great deal more than you probably use it for. And that's where we return to the question of productivity.

While it might be fun to think that you could become massively more productive by finding a way to use the hundreds of features that are currently lying dormant and unused in every product on your hard drive, that would be like saying that your delivery business would suddenly become more productive because you read through the manual on your delivery vehicle and discovered how to operate every option in the car in an expert fashion.

So, instead you need to start by looking at what your business does—and what you would like it to be able to do. Where are you spending more money than you have? Where are you giving up business that you could otherwise win? To help you think about this issue,

here are some additional questions you could ask yourself:

- Do you have a clear idea of your business's current account balance at all times?
- Do you forgo bidding on some contracts because you don't think you'll be able to prepare a proper bid in time?
- Do you end up losing or mislaid documents that could have been emailed simply because you have problems dealing with email attachments?
- Do you know where you would look—right now—to find out the history of your interaction with a given customer if they phoned?
- Does your business's brochure look stale and dated because you haven't had the time or money to get a designer to create a new one for you?

If you answered "no" to questions 1, 3, or 4, or "yes" to questions 2 or 5, then you could probably get greater productivity from the technology you are using in your business. With today's high banking solutions, there is no reason why any business should not have instant access to current account information at all times. Web-designed templates for con-

stantly submitted bids should help cut down on the time needed to create them. And so on. You get the idea—making better use of technology can yield productivity gains that relate directly to the operation of your business.

Having said all that, it should be noted that technology can also hinder productivity if not used properly. If employees get the idea that anything they do in front of a computer screen is "work," it can mean you have a room full of people checking their Hotmail accounts, playing Solitaire, and surfing Web entertainment sites. You may also find that some people get obsessive about making sure their computers are "running perfectly" and waste inordinate amounts of time chasing down problems they think are viruses or trying to decide a computer-related problem that has no bearing at all on the operation of the business (i.e. the 16th pixel on the left hand side of my screen is a little faded, but I have spent four hours on the phone with tech support and I think I know why).

In short, common sense is the order of the day. Technology can be a great productivity tool for your business—but remember that it's there to serve the business, the business not there to feed the technology. □

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# IT power for Mr. Forklift

Continued from page 45...  
package allows them to be equally efficient as large corporations in managing and distributing information throughout their company, over the Web, and to their customers.  
Mr. Forklift's Columbus says the installation went smoothly, but he also feels that it's too soon to say how the new equipment will affect his business. Still, he's optimistic, and hopes that the

installation will "expand the company beyond myself, and expand the ability for it to run without me being a key cog in the wheel."  
We'll have another look at Mr. Forklift two months down the road and find out how dramatically the business has been changed by the makeover. □

David Johnson is a business writer, blogger, photographer, and new technology guy. You can write to him at [david@fordmagazine.com](mailto:david@fordmagazine.com)

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**Forget home videos, DVD's the thing***Continued from page 41*

if necessary—in the video editor before they can be incorporated into the DVD.

Fortunately, working back and forth between video editing and DVD authoring is fairly painless, and re-rendering takes little time as the SmartDV engine doesn't bother to recalculate unchanged frames. However, re-rendering will quickly eat up free hard drive space.

Creating a menu and title/chapter structure is even easier than in DVD Workshop. Just create new menus on one of the strips along the top of the screen, then drag images, video clips, and audio clips from the library onto the preview screen to create menu back-

grounds, titles, hotspots, and background music.

Like DVD Workshop, setting chapter points is a matter of previewing a video clip, pausing on the appropriate frame, and setting a marker.

But for all the ease and convenience of the authoring module, it doesn't offer as many features as DVD Workshop. Backgrounds and buttons can't be animated, there's no provision for an introduction clip you can't determine if the end of a title will automatically lead to another title or back to the menu; title thumbnails can't be the first image of a clip.

**Final cut**

In the end, all of the DVDs I produced

looked quite passable, though DVD Workshop's menus looked the most polished.

The three programs created DVDs with about the same image quality (the differences were so minor I had to repeatedly view the disc to see them), so it really comes down to your needs and preferences.

As someone who likes drag-and-drop simplicity, MyDVD is a dream. As a professional snafu, I like DVD Workshop's level of detail: the menus looked and sounded exactly as I'd planned. But by incorporating editing functions into the program itself, VideoWave gave me more options for tweaking my clips—and more fun (if any) DVD authoring programs give you

real editing capability. VideoWave 5 is a great bargain. So much so, that if you just have to have DVD Workshop but have some spare cash, I would recommend getting VideoWave as well.

In fact, that's exactly what I did when I decided to make a fourth disc: I used DVD Workshop and VideoWave together, passing data back and forth.

The end result was the exact DVD I'd wanted from the start, from top to bottom. The total cost of both packages would pass my \$300 limit, but isn't my kid's extravagant supermanhood worth it? □

Erica Townsend (erica@pubcom) would like to be the first to have the director's cut.

**WWW.**

**TOP**—To the season for holidays and religious festivals, including the Muslim month-long fast of Ramadan. This year, it begins Nov. 8. For information on the world of Islam—and other world religions—check out the BBC's Religion and Ethics page. They have an excellent resource with history, beliefs, holidays, e-cards, and related links.

[www.bbc.co.uk/religion/religion/index.shtml](http://www.bbc.co.uk/religion/religion/index.shtml)

**Your multimedia sidekick***Continued from page 42*

co.) banner that the eDVD, its screen displays 240x320 pixels with 16-bit color (65,536 colors). Overall, the display was impressive, with notebook-like clarity.

Like all Pocket PC devices, the Toshiba includes a set of productivity applications—Pocket PC versions of Excel, Word, Outlook, along with Internet

Explorer and Windows Media Player—which complement the character recognition software and other handheld programs. The e740 includes slots for both CF and SD media.

Beneath the display is a four-way scroll button and one-touch buttons for Calendar, Tasks, Home, and Connect. On the left side are additional scroll buttons that can easily be pressed with the

thumb on the right hand or fingers on the left hand.

For recording in a normal speaking voice, we found we had to be very close to the microphone for it to be audible on playback.

The e740 comes with soft carrying case. Optional accessories include wired and wireless networking and Bluetooth adapters. □

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## Platform News

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# Breaking the iCandy barrier

## With latest revision, Mac OS X becomes full-fledged OS

By Austin Simons

Apple has released the third major revision of Mac OS X and it looks to be the final nail in the coffin for OS 9. Not only has Apple announced that OS 9 is no longer available as a retail product, it will not be supported on new hardware starting Jan. 1, 2009. Most significantly though, with version 10.2, Mac OS X finally makes the leap from the iCandy category to becoming a full-fledged operating system. True, you could say only Mac OS 9 and still be as productive as you are today, but looking ahead, more software now requires OS X and pretty soon there'll be some applications you want to use that will necessitate the jump to OS X anyway.

To date, notable OS X exclusives are mostly from Apple, including iDVD 2.0, iMovie 3.0, iCal, iSync, and Microsoft's Office v.X. Many game developers have noted how much easier it is to port their titles to OS X as expect many new games to be released in the coming months to be OS X only, including the much hyped Doom 3.

In the meantime, let's take a look at 10.2 from start to finish and see how it affects the Mac you use on a day to day basis.



### Work different

What does Mac OS 10.2 do differently? It runs well on old hardware we tested it on a 233 MHz G3 iMac with 192 MB of RAM and it ran surprisingly well. It was fast enough to run AppleWorks, Mail, Internet Explorer, iChat, and iMovieMaker Pro. The iMac can't quite handle a day without a single crash with all the applica-

tions open simultaneously. The same machine with the same workload running OS 9 crashed once or twice a day.

As long as you're using all OS X apps everything runs well. If you have older hardware it also runs better in Classic mode—much more smoothly than in previous versions. Most of the strange graphics refresh problems seem to be

Continued on page 52

# Beta delivers promised sync functionality

Apple unveiled a public beta of iSync on Sept. 28, just managing to sneak into the preannounced release window of "sometime in September." The iSync beta includes all the promised func-



APPLE NEWS

tionality, but is not officially supported by Apple or guaranteed to work. In its current form, iSync allows you to sync with Sony Ericsson Bluetooth-enabled phones, iPods, Palm handhelds and other Mac hardware.

The calendar info is stored in iCal and the address info in the OS X Address Book. If you're syncing with a Palm handheld, the notes and to-do lists are



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**Breaking the Kandy Barrier**

Continued from page 50

final and Classic apps seem to run faster in general, although they will still crash on occasion.

The other big change in 10.2 is Quartz Extreme, which is not as fast as we would have hoped. While it does make a difference in speed, it seems to benefit from 6X AGP more than 1X AGP. On a system with a 60 MHz bus and 2X AGP, but with 64 MB VRAM, some Aqua effects still seemed slow. But on Macs with a faster 133 MHz and capable video cards it was a more noticeable speed improvement. Some people seem to think they can't run OS 10.2 on their Mac unless it supports Quartz Extreme, which is not true. If your Mac doesn't support Quartz Extreme, it will simply run regular Quartz on its old under OS 10.0 and 10.1.

The difference in Quartz Extreme is that the entire GUI—including desktop, windows, and cursors—are all passed to the video card and processed in OpenGL objects. Each window is a textured polygon, which as theory means that the video card can do all the transparency and shadows much faster than the CPU

by moving it as a 3D scene. Quartz Extreme also makes a few visible differences, such as being able to see the DVD Player when transparent objects are placed on top, and the standard arrow cursor now has a subtle drop shadow on Quartz Extreme machines.

In general though, if you don't have a Quartz Extreme-capable Mac (16 MB-plus VRAM and AGP 2X-plus), don't worry too much this time around. Perhaps in OS X 10.3 it will make a bigger difference.

Installing OS X 10.2 was positive, taking about an hour on most Macs and involving two install discs. The core OS is on the first disc, with additional programs and printer drivers on the second CD. The OS 10.2 installer has three options, one of which is brand new. Standard will install 10.2 on top of a previous version of OS X, or add the full OS if you don't already have it. Clean install means your entire hard drive and installs a "clean" version of the OS. The new option, Archive and Install, puts all of your previous OS X software in a directory called Previous Systems, then installs a clean OS X without erasing your appli-

cations and documents. It also includes a choice you can import your old users' data when it's done.

This is by far the preferable way to install OS X. You get clean System and Library folders without having to worry about any old kernel extensions or messed-up preference files. As well, your home folder is recreated so all your most applications and documents are still there. Most people who have had problems installing 10.2 have tried a standard install, which can leave behind traces of 10.1. In our testing, Archive and Install resulted in a more stable system, and in many cases a snappier booting system. Without a doubt, it's the option we recommend for most users.

The full 10.2 install requires 1.2 GB of hard drive space and 128 MB of RAM. Archive and Install requires almost 2 GB of hard drive space, and for best performance we still recommend, at minimum, 256 MB of RAM.

Extreme testing has had us running OS 10.2 on literally a dozen different Macs for more than a month and in all cases, it has been a more stable operating system and superior to what was installed previously.

The biggest problems occurred on Macs going from OS 9 to 10.2. In some cases, RAM that worked perfectly under OS 9 will not work under OS X. If you haven't tried running OS 10.0 or 10.1 on your Mac, you won't know if your RAM is good until you try, but it's not 10.2 specifically that's at fault, just tighter RAM tolerances in the way OS X uses memory as far as we can tell. Otherwise, things have been generally successful.

Once you have 10.2 up and running, you will notice many small changes, but it takes time to catch them all. Most of the networking functions are vastly improved, but the key points for many people are Windows network browsing, Rendezvous, and the return of software Airport Base Station.

In OS 10.1 you could connect to PC servers, but you had to type the address in port 81. In OS 10.2, you simply choose

Connect To Server from the Go menu in the Finder, and the Network Browser will show you all the Macs and PC computers on the network that have file sharing enabled. Rendezvous allows other Macs to show up automatically in the network browser, in much the same way AppleTalk used to work in theChooser.

If you are using Printer Sharing in OS 10.0, Rendezvous will automatically add the shared printer to the Print Center of any 10.2 machines on the network. Finally, Airport software Base Station has been missing since OS 9, but it's back in 10.2. From the Airport menu item simply choose Create Network and follow the steps.

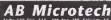
Other minor changes include new performance paces for most functions and a slightly refined look for Aqua, which we would call Aqua 1.1. It's not totally different but it does look cleaner and more elegant. The new progress indicator is particularly nice. In all, it's not night and day, but you'll notice the difference. After using OS 10.2 for several weeks, 10.1 just seems crude.

Once you've been running OS X for a while, there are a few things you can do to keep it running smoothly. Even though OS X is stable enough to run for months without restarting, we recommend restarting once every couple weeks so the system can perform its routine maintenance. When the system starts up it runs the built-in disk utility automatically and repairs any problems it finds. It does all this transparently to the user, although you'll notice it takes longer to start up if your computer was powered down inappropriately.

The other thing you can do to keep OS 10.2 running well is to occasionally (once a month) run the super privileges routine built into the disc: under You'll find it as Applications/Utilities/Disk Utility. The command, under the First Aid tab, is called Repair Disk Permissions. It's a good way to make sure all your directories and files are set properly, as permission errors can give problems in a UNIX system.

There's really nothing else to keeping OS X running. You don't have to worry about rebuilding the desktop or extensions conflicts, and if you can find OS X versions of all your software, OS 10.2 will be a joy to use. □

Justin Semmes, a Mac OS specialist based in Vancouver, B.C., can be reached at jsemmes@mac.com



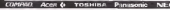
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**Beta delivers promised sync functionality**

Continued from page 33

not backed up, although you can still do that on Palm Desktop if you wish. Also of note for Palm users: we were hoping that Apple would use the same sync engine to power all platforms, but when syncing to a Palm device, you are still using the Palm HotSync engine, so to anyone who's had problems with HotSync in OS X, sync is not going to help you. Otherwise it seems to work very well so far.

We have not been able to find a Bluetooth USB adapter in Canada, but we're testing sync with a Palm, an iPod, and between two Macs. In all cases it worked much as expected. The best implementation, though, was for iPod sync; it is automatically performed every time you plug it into your Mac, which many people do regularly to charge the battery and update their music. Also, since people who own iPods tend to take them wherever they go, it becomes very useful to check your calendar and contacts on the iPod.

We're still looking forward to testing sync with a cell phone whenever Apple can get the Bluetooth adapter released up here. In the meantime, we recommend sync for iPod users—and Palm users who are feeling adventurous.

**A fish tank for your desktop**

Our new desktop screen saver for OS X is called Marine Aquarium, from a company called Serene Screen (serenescreens.com). The premise is similar to the fish tank module in the old Aqua Desk: except this fish tank in this implementation is so realistic that it's a disaster the robofish can't pass for real fish.

The requirements to run it are fairly high—a good video card is required for optimal results, as the fish are rendered with OpenGL (in the OS X version at least). We have only tried the OS X version, but the company also has versions for OS 9 and Windows.

It runs perfectly as an extended desktop application or from within the OS X Screen Effects panel. The demo version limits the

types and number of fish you can see on screen at a time, but it's enough to get you hooked. The full version is US\$31.95—a bit steep for a screen saver but it is pretty slick. At the very least, it would make a great Christmas gift or stocking stuffer for the Mac user who has everything. If you have a Cinema Display, you may find yourself leaving it running all the time.

**LCD promo**

Apple has launched a new Power Couple promotion, with rebates for those who purchase a Powerbook or Power Mac G4 with a quad-core Apple LCD (17-inch Studio Display and 20-inch and 23-inch Cinema Displays) before Dec. 31. Unlike its previous Power Couple promotion, the rebate amount is based on the type of computer purchased rather than the display. This is also the first time Apple has extended the display rebate to reward Powerbook buyers.

Purchasing a dual-487 MHz Power Mac and LCD earns a \$500 rebate, with a \$450 payback for a 667 MHz Powerbook or dual 1 GHz Power Mac with an LCD, and \$600 for a 800 MHz Powerbook or Power Mac dual-1.25 GHz with an LCD.

Apple's rack-mount server also qualifies for the rebate, with \$450 back for a single-processor and \$600 for a dual-processor Xeon.

The 15-inch Studio Display is not included in the promo, which has started a new round of criticism that it's being officially not-of-fide by Apple. There might actually be something to the buzz this time, since as of press time Apple had removed the 15-inch display from both its Canadian and American online stores.

If the 15-inch is truly dead, Apple must be preparing new models or price cuts on the entire display line—lowering the 17-inch LCD to \$1,500 as the base model Apple-branded monitor seems easy to us. Other companies such as Dell and IBM continue to advertise \$1,000 LCDs, although they are all 15-inch. If Apple wants to drop the 15-inch model it should at least introduce a widescreen 17-inch LCD, like the one found on extreme high-end iMac G4s.

Regardless, if you're considering a Power Mac or Powerbook purchase between now and the end of the year, the promo could save you some money.

You just have to keep in mind that it could also mean new displays are around the corner.

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**Beta delivers promised sync functionality**  
Continued from page 17

**Free Mac OS X for teachers**

Schools have traditionally been one of Apple's largest markets, but they have also been amongst the slowest to transition to OS X. While Apple is already trying to shift its home user towards the new OS, it realizes incentives are necessary to get educators to move over, as their upgrade path is significantly more costly.

To that end, Apple has launched a promotion in which educators can get a free copy of OS X 39.2 and a Getting Started With OS X CD. The offer is extended to educators at accredited K-12 institutions in the U.S. and Canada and is available exclusively online through the Apple Web site ([www.apple.com/education/macosx/teachers/](http://www.apple.com/education/macosx/teachers/)). Apple hopes that by introducing teachers to the new OS, they will be more likely to push for their school to upgrade the machines in the classroom.

It seems unlikely to us that such a plan will be successful, considering how underfunded most educational systems are currently. At the very least, it's a nice gift from Apple to teachers and a good opportunity to introduce OS X to more users.

**Apple introduces new software bundles**

Compared to what's available in the Windows world, many PC users migrating to Mac systems are surprised by the slinky software bundles included with Apple hardware. Powerbook and Power Mac G4 purchasers don't even get a copy of AppleWorks, while most PCs include at minimum a basic version of Microsoft Office or Corel WordPerfect.

In response, there are now several software promotions for new Mac buyers. The first, Office Party, adds Microsoft Office vX to any new Mac system for only \$399—a very good deal considering the suite retails for \$750. The second, Design Prody, gives new Power Mac G4 purchasers a full copy of Adobe InDesign 2.0 for free. That deal-up offer targets designers specifically, which is why it is paired with G4 towers only (we think Powerbook G4s should be eligible, too). InDesign retails for about \$1,300. Both promos run until Dec. 31, which means there are no doubt surprises aplenty in store for Macworld San Francisco on Jan. 7. ☐

John Sennars, a MacTIP specialist based in Rochester, N.Y., can be reached at [johns@mac.com](mailto:johns@mac.com).

**Learning to sell the eBay way**

Continued from page 17

ty, and lots of work. Oh, in a few hours, you can be using eBay to get your products out to the world, with fast, secure payment through PayPal, or the Bidpoint/eBay payments system.

Perhaps the biggest surprise for me was the beautiful self-policing mechanism of both buyers and sellers diligently maintaining a spotless reputation on eBay. I was also pleasantly surprised to find so many interesting, honest, and decent people on eBay, from all over the world: Taiwan, France, the U.K., Germany, Portugal, Poland, Mexico, New Zealand, Australia, Japan, Italy, Spain, Norway, Ireland, as well as the U.S. and Canada.

I made my share of mistakes: I occasionally lost emails, and had a hard time tracking some buyers through a maze of many different online fake names and email addresses, and still keeping track of which item or items they had purchased.

Would I do it again? Sure. It actually wasn't easy money, despite the glib of Dad's collection, which gave me free inventory. It took a month or so of fairly

detailed work, and a lot of organization.

The saddest and merriest part of the whole mission was that when I was handling the famous model airplane kits from Dad's collection, I was touching a part of my father's life, his most treasured things that he had been keenly interested in all his life, and that he had an expert's knowledge of.

In his working life, Dad had spent his whole career in the steel industry. He had been hired in 1949 when he graduated from UBC, to run the bargain basement in the Vancouver Hudson's Bay store. He spent a 40-year career with the Bay, eventually becoming the president of the company. By starting and running my own retail business online, and dealing fairly with hundreds of customers from around the world, I felt that for the first time I was gaining some understanding of the work Dad had spent his life doing to support his family. During my eBay summer, I tried to be an honest merchant. I found a great satisfaction every time I made a good sale, and a happy customer.

Thanks, eBay.

Thanks, Dad. ☐

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# Donation publishing

## Web sites surviving on the kindness of strangers

By Peter Tupper

**W**ant to make money with content on the Web? Try asking nicely.

Now that of banner ads have faded and the future of subscription is uncertain, online content providers are struggling to find a way to pay their bandwidth costs and hopefully have a little left over. A handful of online publishers are supporting themselves by requesting donations from fans.

The creator of Web comic 8-Bit Theatre ([www.8bittheatre.com](http://www.8bittheatre.com)), Brian Clevinger, is an example. His comic with two or three episodes posted each week, is made with low-resolution sprites from the Final Fantasy II computer role-playing game, and is sometimes combined with original art. The strip has strong geek appeal, leading up the conventions of fantasy fiction and games.

Clevinger's site features a banner displaying how much money has come in so far each month, usually between US\$1,500 and US\$2,500. Recently one-third of it is from ad banners and Cafe Press merchandise sales, but the majority comes from fan donations. Clevinger, who is based in Orlando, Fla., receives most of it in PayPal deposits of \$10 or less, with occasional larger amounts.

He estimates that about half of the money comes from regular repeat donors. "Every month I get a list of the same names and e-mail addresses giving me money. Even if it's just \$1, thank you of joyfully money after money is appreciated."

Clevinger supports himself through this work—though not exclusively, by his donation FAQ, he says he allows himself one video game and one movie a month.

His creation is an exceptional one, however. It was ranked number one on [topsites.com](http://topsites.com) for five months and named to the hall of fame, making Clevinger the Stephen King of Web comics. Other Web comics, even those ranked in the top 10, receive little support.

Zerk 20 ([www.zerk20.com](http://www.zerk20.com)), which is written and drawn by Isaac Hall in Illinois, only brings in about US\$60 each



month, which goes to hosting fees and art supplies.

Nath Vancouver's own Broken Saints ([www.broken-saints.net](http://www.broken-saints.net)), which was profiled in *TIME* November, is an even purer form of donation publishing. Broken Saints is a much more ambitious project than 8-Bit Theatre, combining original art, Flash animations, and music into a episodic story told in 24 monthly episodes, spanning two years. The site has no advertising or sponsorship, leaving the project to be funded by the creators' savings, sales of Cafe Press merchandise, benefit concerts, and donations. To date, more than \$5,000 has come in, much of it from fans in amounts from \$5 to \$50.

Also, when Broken Saints gets major media attention from sources like US-based National Public Radio or European newspapers, three-figure donations from artists patron tend to roll in.

Most of this money goes to covering Web hosting, the venture's chief operating cost, which runs up to \$2,000 a month. While Broken Saints began with support from Switch Interactive, it still uses the same hardware and software it did two years ago.

Broken Saints is not a money-making venture. The three creators (Brooks Burgess, Ian Kirby, and Andrew Wint) are living on their savings and taking part-time jobs so they can fund this

project, which they hope will be a portfolio piece leading to future work.

Donations can also be used to support publishers on a contingency basis. Ad-supported news Web site Low End Mac ([www.lowendmac.com](http://www.lowendmac.com)) was in financial difficulty in June 2001. Traffic kept going up, but ad rates were falling faster. Readers pushed in about US\$82,500 in donations to help offset the \$2,100 deficit. The site also requests ongoing donations for its regular content and mailing lists. There's even a helpful chart that shows which of several transaction services is most efficient for the amount donated.

Since most donations are small sums delivered by online banking companies, donations suffer the same problem as micropayments in that a significant portion is lost in overhead. Amazon Honor System transactions cost \$0.15 each, plus 15 percent, and PayPal merchant accounts charge \$0.30 for each transaction, regardless of the amount, in addition to 2.2 percent or more.

Bates relying on donations may trade one dependence for another instead of asking content to be palatable to advertisers, a donation supported site would shy away from controversial content in order to keep the donations coming in. While a commercial content provider is supposed to please its readers, a journal-

istic publication is supposed to fulfill a particular public duty.

It's hard to gauge the success of a publishing venture based on how much money people donate to it. Because 8-Bit Theatre gets more donations than Broken Saints, does it follow that it is better? Broken Saints is a more labor-intensive than 8-Bit Theatre, but people make donations on their own accounts, not how much the work cost to produce.

There's also the problem that the more popular a site is, the more hosting costs. A site that grows in popularity without increasing its revenue can end the creative money, with no way to shut it off.

So, what makes a Web site inspire its audience to donate?

Brooks Burgess, writer of Broken Saints, says, "At first I didn't understand why they were willing [to donate]... we were three featureless pixels making a creepy little Flash thing. After a series of passionate and expensive mails from fans, I started to get it. We are 'teaching' people with the work, giving them hope that there's somebody else out there in the vast, dark cyber-mass that understands what's wrong with the world and wants to fix it. I think they donate because we've donated our time and energy to doing what they wish they could do, and they want to play a small but essential part in getting our message 'out there.'"

Clevinger is less philosophical about his success. "I'm just lucky I happened to be at the right place at the right time and I'm making it for all it's worth."

The examples here get most of their donations from email, dedicated followers. Burgess and Clevinger take the time to answer fan emails and post messages in online forums to build their fan bases, and the audience shows their appreciation through donations. The money isn't just a payment for information and entertainment; it's for something the giver feels personally involved with. It's also an investment, ensuring there will be more of the same in the future.

It's difficult to understand what moti-

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# Careers & Training

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## Data search and rescue

At least every computer users has, at one time or another, lost information or documents stored on their hard drives or media. It's a frustrating, blood-pressure-raising experience at the best of times, but it can be devastating to a small business that loses accounting records or intellectual property, or a graduate student who accidentally wipes out a year's worth of thesis research.

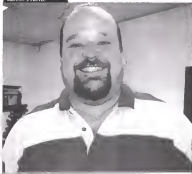
That's where people like Doug Owens step in. Owens is a data recovery lab technician who spends his days trying to rescue information from drives and media that have been damaged, infected, or unintentionally erased. He took time out recently to speak with TCP about the daily problems and solutions of data recovery work. Here is an edited version of that conversation.

**TCP:** How did you become interested in working with computers?

**DO:** It goes back to when I was in high school, taking the mandatory computer literacy course. It just opened up a whole new world—the things that you could do on a computer. It was just a course

(Continued on page 58)

### Career Profile



Meet Doug Owens.

Title: Data Recovery Lab technician

Company: CBI Data Recovery Technologies Inc., [www.cbitech.com](http://www.cbitech.com)

San Diego, Calif., office

## Hardware guide a must-read for PC DIYers

By Keith Schengle-Roberts

One of the things that separates true techies from the rest is the willingness to dive into the guts of a machine to add new components: hard drives, video cards, motherboards, and so on. But given the ever-changing nature of computer technology, to obtain expertise



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## < CAREERS & TRAINING >

### Data search and rescue

*Continued from page 58.*

that everybody had to take, but after that I enrolled in the programming courses and just continued to find myself deeper and deeper involved in them. Originally it was all on a software level, programming, not doing any sort of repairs or none of the hardware side of it.

*How did you end up in the position you're in now?*

After high school, I went to a technical school in San Jose, [Calif.] again to learn programming. At the time, they taught us all the cutting-edge languages, which back then were Cobol, Fortran, Pascal, C was just coming out—that was the last course that we were instructed as. After that I went to work for a small company here in San Diego, and stayed with them for almost 16 years. The company was a service provider, basically converting data from incompatible computers, and eventually turning into doing data recovery from damaged tape media. I've been with CRE almost a year.

*Tell me about a typical workday.*

We'll have customers that have prob-

lems with their media, be it a hard drive, a tape, SmartMedia, floppy, CD, removable—just about any type of media that you can store data on, those are our potential customers. We'll normally get the projects in, they'll be logged in, customers are notified, and then the project would be placed on our pending shelf to be processed. We would take each project and begin the evaluation of it to determine what the problem is, and what it would take to resolve that problem.

After completing the evaluation, prior to performing the actual recovery, we provide the customer with an exact quote for what the recovery will cost them. We want to make sure, before going through the many hours of work to actually recover the data, that the cost of the recovery is going to be approved. There's no point in us spending three or four days to recover data and then the customer saying "Nah, it's not really worth that."

Upon getting approval, we move to the recovery phase of the project. Depending on the problem, that could mean sending the drive into the clean room to have components replaced or

order to be able to read the drive, such as the heads, or to see how extensive the physical damage is.

It could mean that it goes into the logic lab, which is where problems with viruses, partitioning, formatting, deleted files, things of that nature are handled. It just depends on what the problem is—if it's a tape issue, then we take it into the tape area of the lab and begin processing it. The lab is organized into certain areas for certain types of projects.

Once we get to a point where we can recover the data, the data is [checked] for validity to make sure the target data, the data that was important enough for the customer to send it in, is recoverable. We want to make sure we're able to give them back what they want—if we can't, then we don't charge for the recovery.

*How do you go about figuring out what the problem is?*

We have an excellent development staff in our home office that has written a lot of our evaluation software. Part of it, we determine what type of problem [it may be] based on what the customer has told us. If they say that the drive is clicking, then we know that there's prob-

ably going to be an internal problem. If they told us that they deleted the partition, then we know we need to look at it as a logical problem. If upon visual inspection, we see that there's burned out chips on the circuit board, then we know that it's going to be at least an electrical issue to start with.

Once we get beyond the physical or electrical problem, we start off by producing a mirror of their drive. That way, any of the processing that we do is on our drive, as opposed to theirs. Any changes that we make to it are not catastrophic, because we always have that original that we can go back to. So after mirroring it, we fix the problem, whatever that is, and then start pulling the data off of the drive onto either another type of drive, or onto CD-ROM to return it to the customer.

*You're a manager as well. How many people do you supervise?*

The San Diego and the New York offices—four.

*How much of your job is management?*

A lot of it is just paperwork. I would say during the week, very little, say 10

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# What if you could... Study from home get paid to do IT

## Learn from Home with the Infogem Institute

The Infogem Institute of Technology, a Calgary based training organization, has recently released a new line of training designed to fill the rapidly changing IT skills gap. Unparalleled education of course leading to a program allows qualified students the ability to acquire government funding in the form of student loans or E-Li sponsorship to upgrade their skills from home.

As a part of a new initiative underway for private institutions, the Institute has been approved under a pilot project to allow students to take their courses from the comfort of their own home. The pilot will allow only 20 students to take the program to prove that online learning can be an effective tool for learning in Alberta.

Richard Fossey, Program Director at the Institute says "This is a very exciting time for education in Alberta. We look forward to speaking with all interested applicants and working through the process with them. Due to the space limitations and the importance of this project, we will be introducing various interviews with our interested parties. It will be important to contact us quickly as we will book qualified individuals into the program on a first-come-first-served basis."

Sebastian Hawry, Director of Business Development says "The value of a program like this cannot be overstated. Single parents can get an education while not disrupting their lives. Many people are under-employed these days and if you could change your life from home in just 4 weeks, wouldn't that be worth looking into?"

The program itself will provide graduates with graphic design, web development, web security, e-commerce, basic programming in Java and Perl, along with a strong grasp of Java. Graduates of the program will not only acquire an accredited college diploma, they will acquire their Certified Internet Multimedia (CIM) Master Designer certification as well as the first-time Certified Java Programmer certification.

## SANS Security Training and

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After September 11th, demand for Security Specialists has shot through the roof. The Infogem Institute has been quick to respond with a secure approval of their (SANS) Certified Security Specialist program. The program includes Windows 2000/XP, Linux, and a series of specialization for security.

## Solutions Professionals

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This remarkable new program from the Institute fills a void that the market has waited for some time now. Graduates of this program would acquire a college diploma and will be prepared to challenge a hardware certification (A+), networking certification (MCSE), database certification (MCDBA) and for the first time in Alberta, developer certification (MCSO).

## Recent Statistics

Recently the July and August issues of the Calgary Labour Market News published by Alberta Human Resources and Employment stated that "The IT sector grew twice as fast as other sectors and indicates the number one key career opportunity. The sector is still some of the best in the country, with many companies paying premium bonuses to retain senior and highly skilled professionals. However, demand has caught up to supply to obtain skills."

## More Information...

Please go to [http://www.infogem.com/ca/infogem\\_cali/rapidfire/infomedia/infomedia.htm#page.htm](http://www.infogem.com/ca/infogem_cali/rapidfire/infomedia/infomedia.htm#page.htm) for more information regarding which IT skills are currently in demand by Calgary employers.

Contact the Infogem Institute at (403) 1377-8847 for more information or check out their website at [www.infogem.ca](http://www.infogem.ca).



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